THE MEDICAL JOURNAL OF AUSTRALIA

VOL. I.—27TH YEAR. SYDNEY, SATURDAY, MAY 4, 1940. No. 18.

Table of Contents.

An Address.[1]

PATHOLOGY IN PRACTICE.

By KEITH INGLIS,

President of the New South Wales Branch of the British Medical Association.

FIRST let me thank you for the honour you have conferred on me in electing me President of the Branch for this year. I hope that I shall prove equal to the occasion and give satisfaction to members.

Six months have elapsed since the war began, and, though the general life of our community has so far been disturbed but slightly, all the signs indicate that before long every one of us will be deeply involved, and that the medical profession will be called on to play a part of continually increasing importance both at home and abroad. In these circumstances it would be appropriate that I should choose for my address some subject bearing on the war. I regret, however, that I do not feel competent to do this, and so I have chosen a subject in which I have had first-hand experience, and which, I hope, will prove of some general interest.

[1] Delivered at the annual meeting of the New South Wales Branch of the British Medical Association on March 28, 1940.

EVENTS OF THE PAST YEAR.

Before proceeding with the main theme of my address I wish to speak of certain events which have occurred during the past twelve months.

A Department of Medical Sociology and Research has been established, the objects of which are to render a public service by collecting information for dissemination among members of the public by every available channel, such as the public Press, public addresses and broadcasting. For the purpose of implementing the objects of the department, a

competent officer has been appointed, who is responsible to the Council through the Medical Secretary.

With regard to war emergency organization and the protection of practices, the Council has adopted, with some modifications of the financial arrangements, the model scheme of the Federal Council for the protection of practices of members of the profession engaged in war service. The objects of the scheme are, first, to protect, as far as possible, the capital value of the practice of the member on active service, and second, to ensure that he receives an assured income. Subject to their approval by the Council, the financial arrangements are left to members in each area. Already a number of local associations have submitted their arrangements to the Council for approval.

Concerning subsidized practices, representations were made to the Government that the subsidy offered to doctors to encourage them to practise in sparsely populated areas was insufficient and should be increased. This was subsequently done, with the result that many applications have been received by the Health Department in answer to advertisements, and so a number of country areas which have been without proper and efficient medical care will now be provided with it.

Relating to the *Medical Practitioners Act*, strong exception was taken to the regulations which the Minister proposed to introduce governing advertising by unqualified persons; but although the representations of the Association were not accepted by the Minister, it is gratifying to note that the Upper House saw fit to reject these regulations.

The new proposals of the Commonwealth Government on national insurance were considered by the Council, and the President, Dr. George Barron, and the Medical Secretary, Dr. J. G. Hunter, in order to obtain the views of country members, undertook a rapid tour of the State, addressing meetings at twelve different centres. Although the *National Health and Pensions Insurance Act* has been shelved, there is no doubt that the subject will be raised again in the future.

PATHOLOGY AND PRACTICE.

This evening I ask you to consider with me the part which pathology in its various aspects plays in medical practice. This may be considered from two points of view: from the point of view of the clinician, whether he be general practitioner or specialist, and from the point of view of the pathologist, this term being used in its widest sense.

Pathology as an Early Training for Clinicians.

Let us first consider pathology in relation to the clinician.

Pathology has always been regarded as an important foundation on which to base clinical experience. Sir James Paget tells us in his memoirs that he spent several hours daily for seven years on the catalogue of the museum of the Royal College of Surgeons of England.

Sir William Osler, when twenty-six years of age, was appointed pathologist to the Montreal General Hospital. He personally conducted and fully worked up large numbers of autopsies. It is doubtful, says Harvey Cushing in his biography of Osler, whether anything more than a great love of the work led him to study this material in such detail; he could hardly have realized until his later years that a long apprenticeship in the pathological laboratory always has been and always will be the only way to reach the very top, either for surgeon or physician—the way followed by Addison, Bright, Stokes, Paget. Sir Humphrey Rolleston said of Harvey Cushing, soon after Cushing's death last year: "In the Hunterian Laboratory of experimental medicine at the Johns Hopkins Hospital he worked quietly for years at experimental surgery and pathology."

R. A. Young, in the annual oration delivered before the Medical Society of London in 1937, said:

> I am very much impressed with the fact that physicians with great experience of post mortem work rarely make "tall" diagnoses, but often make brilliant suggestions in difficult cases from their wider knowledge of the distribution of the effects of disease. I lament the tendency nowadays for aspirants to hospital posts to avoid the routine of the performance of post mortems as pathologists, which formerly was almost the routine preparation for the staff.

Appointment of Honorary Medical Officers to Hospitals.

A few years ago a visitor from abroad emphasized the fact that the F.R.C.S. of England was, above all others, "a marketable degree". By this he meant that the holders of this diploma are likely to have an advantage where surgical appointments at hospitals are concerned. Now that a higher qualifications is essential for specialist appointments at many hospitals, the "marketable" character of such degrees and diplomas is becoming more and more recognized by young graduates who intend to specialize. The result is that, soon after six years of intensive study and numerous examinations as undergraduates, these embryo specialists fly to their books again and prepare for more examinations.

These higher degrees for hospital appointments are desirable, but it is important that encouragement should be given to some of our more capable graduates to carry out, for a year or so, some work, either experimental or observational, in a laboratory concerned with pathology, bacteriology, biochemistry, or some kindred subject. Hospital boards and other bodies responsible for specialist appointments should recognize that entrance to the ranks of the honorary specialists is more important from the laboratory bench than by way of the office desk.

In the past there has been a tendency in some quarters to regard medical graduates who hold administrative posts as almost having a lien on honorary medical appointments when they fall due. The few graduates who spend time in laboratories are likely to be passed over because their interests are apt to be regarded as academic rather than practical.

The Academic Outlook.

With some people the term academic is almost regarded as a term of reproach. How often we hear a man with a bent for research being described as too academic! There are in the ranks of medicine today all too few people with the academic outlook. During recent years the clinical side, or what might be called the applied side, of medical education in this State has received much support and has made great progress; it is most important that the preclinical side, or what might be called the fundamental side, of medical education should receive corresponding support; otherwise an elaborate superstructure will be built on insecure foundations.

Medical Scientists and Medical Policy.

In the shaping of medical policy the medical profession in this country does not avail itself adequately of the expert knowledge of those who work exclusively on the scientific side of medicine. Medical scientists are seldom elected to the boards of hospitals, they are not represented on the Hospitals Commission or its various committees, and, though their advice is generally sought when problems relating to the scientific side of medicine are under consideration, they are seldom appointed to the committees to share in the responsibility for the policy which is decided on. Probably the most striking example of this is provided, not by a State committee but by a Federal committee, the National Health and Medical Research Council. In this regard it is interesting to contrast the Medical Research Council in England with that in Australia.

Sir Edward Mellanby, in his Harveian Oration given to the Royal College of Physicians of London in 1938, referring to the Medical Research Council, said:

> Of the present eleven members of the Council, eight are men chosen for their scientific and medical qualifications in the various fields of medical science. Every scientific member must not only have the approval before election of the Lord President of the Council, but also that of the President of the Royal Society. Only two members are politicians in the sense that one must be a representative of the House of Lords and the other of the House of Commons. At present the remaining member, the treasurer, is a distinguished banker. With a body of this nature it will be seen that direct political influence is not likely to affect their decisions. It might then be said that, although direct political influence is obviated by the constitution of the Council, some such influence might still be exerted, through the secretariat and permanent officials. To meet this the Secretary of the Council is elected by the Council itself—that is, by the scientific majority of its members. The Secretary of the Council is also the Secretary of the Committee of the Privy Council for Medical Research. There are, in other words, no administrative officials or machinery standing between the Medical Research Council and the Lord President of the Council. So far as constitution and powers are concerned, every action has been taken to see that the Council consists mainly of a group of experts in medical research with full authority to use and control the public money placed at its disposal, independently of all other bodies.

The National Health and Medical Research Council of Australia is very differently constituted. I understand that in addition to one layman and one laywoman, the Council at present consists of two surgeons, two physicians, a biochemist, and eight medical graduates who are administrators, public health officers or both. It would be ungracious not to acknowledge the efficient way in which the Council has carried out its work; but this does not alter the fact that fundamentally the sound principle to adopt so far as a medical research council is concerned is to choose experts in medical research and to choose them for their individual qualifications.

The Place of Pathology among the Medical Sciences.

Having considered pathology in relation to the clinician, let us now consider it in relation to the pathologist.

In 1938 Professor W. C. Topley delivered the first Kettle Memorial Lecture, choosing as his title "The Place of Pathology among the Medical Sciences". In this address Topley reminds us that the name pathology is a family name which includes morbid anatomy, bacteriology and pathological chemistry. Some knowledge of all of these is necessary as a foundation. It is not good, Topley adds, that a young pathologist in his early or middle twenties should be labelled a morbid anatomist, or a bacteriologist, or a pathological chemist, and run in blinkers from that day onwards.

The following tribute by Topley to the importance of morbid anatomy makes almost embarrassing reading for that small band of enthusiasts who devote their lives to this branch of medicine.

> If there is any danger at the present time in regard to the relative activity of the different aspects of pathology, it is a danger of too few morbid anatomists, not too many. The rapid advances made by bacteriology and immunity, by biochemistry, and by the application, as in cardiology, of physiological methods of attacking pathological problems, have invited so many workers into other paths, that the expert histologist may soon be, if not a *rara avis*, at least a specimen whose future gives rise to anxiety. We cannot do without him. As a diagnostician he has an essential part to play, and he forms a firm and valuable link between pathology and clinical medicine. In the field of experimental research his potentialities are in the early stages of development; and the growing realization of this fact, particularly in this country and in America, may provide us with the records which we so clearly need.

The Training of Pathologists.

It is desirable that a medical graduate who intends to take up pathology as a career should spend at least one year as an ordinary resident medical officer in a large teaching hospital, and at least two years in an approved department of pathology, preferably one attached to a teaching hospital, where there will be guidance by experienced pathologist, bacteriologist and biochemist. If possible, experience abroad should be had at this stage, for it will greatly broaden the outlook. Specialization in one of the branches of pathology should not come too early. If it can be arranged, some experience in general practice should be fitted in during the early years; even if this amounts to only a few short periods acting as *locum tenens*, it is better than nothing. Speaking generally, a period of many years in clinical practice is undesirable.

A well-trained pathologist endowed with the true scientific spirit, one who can win the confidence of his clinical brethren, will prove to be a boon to any group of practitioners. In competition with none of them, he can, in his special field, be adviser to them all. If he is of the right calibre he will bring an interest into their work such as they never dreamed of, and, should there be some who feel overburdened with monotonous routine, he may save them from becoming mere carpenters and pillmongers of the profession. To do all this a man must be endowed with high qualities, and that is why those who are devoted to pathology hope to attract to its ranks the very best of our graduates.

Pathology in the Hospitals.

During recent years the majority of the large hospitals have provided adequate accommodation and facilities for routine pathological services, and a few have provided facilities for original investigation. There are, however, some exceptions to this general statement; for example, one of the most important hospitals has its department of pathology housed in a building which has had no extensions for thirty years.

In this regard one is reminded of Osler's address to the British Hospitals Association, when he said:

> Excellent as are the general hospitals of this country in regard to the care of the patient, the nursing and the general arrangements—always clean, always tidy, always looking well—when I go to a general hospital I am usually asked to see the wards and the kitchens. I say: "No, I do not want to see them, they could not look better here than they did in the last place I visited; show me your clinical laboratory; show me your pathological laboratory". And then the manager has an engagement. He says: "Will you kindly show him that room in the basement?" and he goes away with a blush that leaves a radiance.

In New South Wales, however, the outstanding need is more pathologists. There is a tendency for the pathological work of many hospitals to be conducted by one pathologist; this constitutes a serious danger and has led to the practice of appointing pathologists who visit the various hospitals for an hour or two daily or at longer intervals. For small hospitals this is unavoidable, but in some other hospitals, where it is the practice, full-time pathologists should be appointed.

The necessity for prolonged training under the guidance of experienced pathologists does not seem to be fully appreciated by the profession. This calls to mind a story told by the director of an institute in London concerning a young clinician who visited the institute to learn bacteriological technique while his wife waited in the car down in the street.

It has become a custom in some hospitals for blood transfusion to be regarded as one of the duties of a pathologist. This practice in a large institution is to be deprecated. Blood typing may reasonably be regarded as within the pathologist's sphere; but blood transfusion is a clinical procedure, and speaking generally, it should not be undertaken by a pathologist.

In large institutions clinical and pathological duties should not overlap. In one metropolitan hospital it has been the custom for resident medical officers to be occupied for four months at a time partly with clinical duties and partly with the duties of resident pathologist. This has proved to be an unsatisfactory arrangement.

In large hospitals, especially teaching hospitals, it is desirable that an endeavour should be made to prosecute original work, even if this be done in a small way. The department of pathology should be the centre of these activities, and facilities should be available for the clinicians to work there, either alone or in collaboration with the members of the staff of the department of pathology. An endeavour to break new ground is a great stimulus to all concerned. The wisdom of this is appreciated by several hospitals, but some still lag behind.

The Spirit of Science.

Osler had a very high opinion of the value of the pathological laboratory in a teaching institution; he thought of it as the place "where men dream dreams and thoughts are materialized into researches upon the great problem that confronts the profession in each generation—the nature of disease".

Working in such an atmosphere, at an impressionable stage in their lives, young men and women may gradually come to feel something of that intangible yet very real influence, the scientific spirit.

The spirit of science is elusive and as light as thistledown; it is not to be hunted with a bludgeon, it is to be wooed as the poet's muse. Should it find its way into the scientific departments of an institution, there is no limit to the influence it may have. The spirit of science ennobles as no baser passion can, and its light touch may transform the laboured efforts of routine service into a life dedicated to that noblest of all quests, the search after truth for its own sake.

The anonymous author of a small book entitled *"Confessio Medici"* says:

> Great hospitals, with their schools, are something more than blocks of buildings where patients are doctored, and students and nurses are taught. I do believe in the spirit of a place. To me the *genius loci* is really there; and the *religio discipuli*, the student's obedience to the spirit of hospital life, is a very important part of his education.

This spirit of hospital life is compounded of many variable components, not the least important of which is the spirit that pervades its scientific departments.

The Dearth of Pathologists.

The need for more pathologists is emphasized by the fact that no suitable Australian graduates were available for certain appointments which became vacant in Sydney during the last year or so. These positions were filled by refugees already in Australia or by graduates of universities in central Europe who were invited to come to Australia to fill them. These appointments were all made before

the outbreak of war. It must be understood that I raise no objection to the appointment of graduates of universities situated in foreign lands. These graduates, provided they have ability and special experience, will introduce new ideas and will be a source of strength to the country; but to choose for responsible pathological appointments refugee doctors with inadequate special experience, because they are willing to accept the remuneration and status of technicians, would be unwise.

It will be unfortunate if we do not succeed in inducing more Australian medical graduates to take up the scientific side of medicine as a career. The main reasons why our own graduates have not been attracted in sufficient numbers to choose the scientific side of medicine for their life's work is that many of those who hold such appointments have been given inadequate remuneration and inferior status. Recently there has been an appreciable improvement and a better response; but it takes a long time for the effect to become evident.

The Society of Laboratory Technicians.

The relationship between a pathologist and his laboratory assistant or technician is an outstanding example of understanding and loyalty. The striking feature about this cordial relationship is that it is so widespread. The cooperation and helpfulness of the technical staff contribute in no small way to the successful conduct of pathological departments.

While making this acknowledgement I must stress the point that if hospital boards seek to economize by allowing technicians to accept responsibility for pathological reports, they are rendering a great disservice to the community. It is essential that this responsibility should be vested in a pathologist with a medical background and a special training in pathology.

I think it will be of interest to members of the medical profession to know that a Society of Laboratory Technicians has been in existence for many years; its membership includes technicians in all branches of science, about 70% of them being employed in medical laboratories. During recent years the society has been very active and is about to commence a series of classes for the training of junior members in technical methods. This training is to be supervised by an examining council consisting of two members of the Faculty of Medicine of the University of Sydney, two members of the Section of Pathology and Bacteriology of the New South Wales Branch of the British Medical Association, and two members of the Society of Laboratory Technicians.

Conclusion.

Before closing I wish to allude briefly to these troubled times in which we find ourselves. What lies ahead we cannot tell, for a beneficent Providence will not reveal the future to us. Those of our number who join the Navy, the Army or the Air Force must have the loyal support of those who stay at home. Some of those who remain will have military duties, but there will be many belonging to the silent band of workers in mining town, industrial centre, country district and the like, whose duty it will be cheerfully to carry on the work that lies at hand, to take no thought for the morrow, but to let the morrow take thought for the things of itself. It is well to remind ourselves that most men and women instinctively respect the nature that is higher than their own. Such higher natures in these times will do much to maintain the tone and morale of the people by their clear judgement, their calm, their poise and their cheerful outlook. Let us remember that all spirit is mutually attractive.

> Spirit to spirit—as in water face answereth
> To face, so the heart of man to man.

ATELECTASIS AND PULMONARY TUBERCULOSIS.

By Cotter Harvey and Bruce White,
Sydney.

In a discussion last year on massive collapse of the lung at a meeting of the New South Wales Branch of the British Medical Association the opinion was general that the condition rarely, if ever, occurred in pulmonary tuberculosis, at least in this country. W. A. Bye,[1] who read one of the papers, had found references in the literature to the condition, but had not had access to a single case.

Our object in this communication is to show that here, as elsewhere, massive collapse occurs quite often in pulmonary tuberculosis, and to sug-suggest that it usually escapes diagnosis. The possibility of its presence, in any form, from a localized atelectasis up to total pulmonary collapse, should always be considered, because it may profoundly modify not only the subsequent evolution of the disease, but also prognosis and treatment.

Atelectasis may be defined as complete airlessness of portion or the whole of a lung. The exact cause of this condition is not yet clear, especially as to what part, if any, is played by nervous influences. Fundamentally, however, atelectasis is an obstructive and not a compressive phenomenon, which in practice can be explained almost always on the basis of complete occlusion of a bronchus or bronchiole. It must be emphasized that modern collapse therapy cannot render the lung completely airless unless some complication, such as bronchial occlusion or kinking, has occurred (Pinner[2]). This, of course, does happen, as we shall show later. (In passing it may be noted how much confusion of thought exists between massive collapse and collapse of the lung from pneumothorax.) We do not propose to deal with lobular atelectasis, which occurs often in pulmonary tuberculosis, though it is not easy to recognize, but to limit our discussion to the massive types, namely, lobar and total pulmonary atelectasis.

If the generally accepted view regarding the prime ætiological factor in atelectasis is correct, namely, bronchial obstruction,[3][4][5][6] the exact causes thereof merit enumeration. The extensive employment of bronchoscopy in tuberculous patients, now proven to be a harmless procedure,[7][8][9][5][10][11] has revealed the fact that the bronchi are frequently attacked by the tubercle bacillus. Corylloss showed that various bronchitic lesions may be produced, caseous, ulcerative and stenotic, any of which may affect the patency, elasticity and contractility of the bronchial tubes. Tuberculous bronchitis and its sequelæ are possibly the commonest causes of bronchial occlusion. Others are: (*a*) retention of secretions within the bronchi, including blood during and after hæmoptysis, (*b*) kinking of a bronchus during collapse therapy, (*c*) pressure of enlarged tracheo-bronchial glands. Some of these may be temporary, as when a clot of blood is coughed up, and reaeration of the lung occurs. But should the obstruction remain for any length of time, and Brooks[12][13] has shown by means of tiny balloons that as short a period as six hours may suffice, or should bronchial stenosis occur, collapse becomes permanent, pulmonary fibrosis develops and eventually there results complete functional destruction of the portion or whole of the lung involved. This may, of course, result in the death of the tubercle bacillus and should theoretically be a good thing. In upper lobe lesions arrest of the disease process and clinical cure may be expected; but if a lower lobe or whole lung is involved the end result, if the tuberculous process is stayed, will probably be that of gross bronchiectasis. We shall note these occurrences in discussing our individual cases.

Here it may be stated that no attempt has been made to collect all the cases which have come under our observation and which conform to the diagnosis. Rather has an attempt been made to evolve a simple classification as a clinical basis to assist in the recognition of this condition. We are fully aware of the incompleteness of our scheme, which we offer in the hope that a more adequate one may be evolved therefrom.

Classification of Atelectasis.

Cases of major atelectasis occurring in pulmonary tuberculosis may be grouped under the following headings:

A. Acute:
- (i) Following hæmoptysis.
- (ii) Simulating or associated with pneumonia.

B. Chronic:
- (i) Insidious.
- (ii) Simulating foreign body.

C. Associated with collapse therapy.
- (i) Artificial pneumothorax.
- (ii) Phrenic interruption.
- (iii) Thoracoplasty.

In the first group the onset is sudden and stormy, leading as a rule to the patients' immediate admission to hospital, if they are not already undergoing institutional treatment.

Clinical Notes.

The following notes are from the histories of patients whose entry into our clinical field was precipitated by hæmoptysis.

CASE I.—L.G., a female, aged twenty-nine years, in July, 1937, sustained a series of hæmoptyses. Twelve months previously she had been treated for six months in a sanatorium and had then been well until she caught a cold. On her admission to hospital it was noted that the signs in her chest were consistent with a diagnosis of complete collapse of the left lung, and this was confirmed by the skiagram (Figure I). No tubercle bacilli were found in the sputum, and there was little constitutional reaction. Bronchoscopy was carried out, and blood clot and débris were removed from the left bronchus; no definite pathological change was found therein. The patient returned home to rest and was seen and examined again by X rays two months later. Breath sounds were now well heard over the left side, though the heart was still drawn to the left. The radiologist reported on the skiagram (Figure II): "There is some diffuse fibrosis throughout the left lung and some thickening of the overlying pleura, particularly at the base. The heart and mediastinum are pulled well over towards the left. The appearance suggests that this is the result of an old tuberculous lesion." During the past two years this patient has kept well and has shown no evidence of any activity of the disease. A skiagram in January, 1940, reveals no significant change.

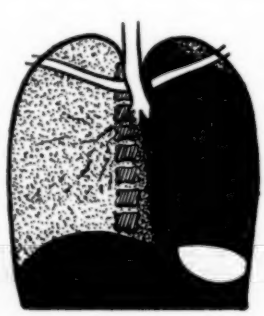

FIGURE I.

Case I. Diagram showing massive collapse of the left lung. The heart and mediastinum are drawn to the left and portion of the right lung can be seen to the left of the vertebral column.

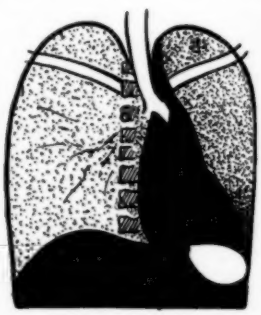

FIGURE II.

Case I. Two months later reaeration of the left lung has taken place. The heart and mediastinum are still somewhat to the left of their normal positions.

No skiagram could be obtained of this patient's condition prior to her coming under observation; but the story is a simple one and requires little comment, except that it illustrates complete reaeration of the lung after the bronchial obstruction (blood clot) had been removed.

This case affords a contrast to the following one, wherein the patient was far less fortunate.

CASE II.—B.L., a male, aged thirty-one years, had been perfectly well one week before his admission to hospital in July, 1939; in fact he had played six sets of competitive tennis in the preceding week-end. Two days later he had a sudden hæmoptysis while at work. X ray examination of his chest on the same day (Figure III) revealed slight fibrosis in the upper zone of the right lung and slight infiltration in the left upper zone, suggestive of early exudative tuberculosis. He was sent home to bed, but hæmoptyses recurring daily necessitated hospital treatment. On his admission to hospital one week after the onset he was seen to be very ill, with a temperature

of 103° F. and a pulse rate of 126 per minute. Physical examination of his chest revealed signs of consolidation of the whole of the left side, and a skiagram now showed the left lung field to be completely opaque (Figure IV). Tubercle bacilli were found in his sputum. During the third week of his illness he coughed up a blood cast of practically the entire bronchial tree of the left lung (see

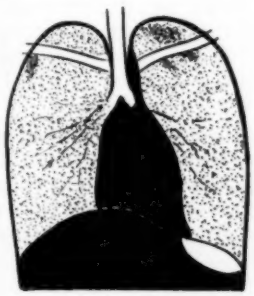

FIGURE III.
Case II. Diagram showing minimal lesions in both upper zones.

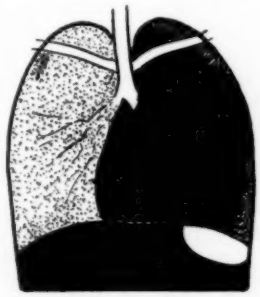

FIGURE IV.
Case II. Eight days later, showing massive consolidation of the whole of the left lung, but heart in normal position.

Figure VI). Radiological examination during the fourth week of his illness still showed the left lung field to be completely opaque, with the heart now retracted towards the left side (Figure V). During the subsequent period of two months in hospital the patient's general condition

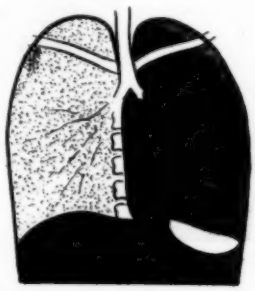

FIGURE V.
Case II. Three weeks later. The left lung is still completely opaque and the heart is now shown retracted to the left.

FIGURE VI.
Case II. Drawing of cast of bronchial tree (left).

gradually improved, but serial skiagrams showed very little change in the left side of his chest. After he had coughed up the cast there appeared to be some clearing of the dense shadow towards the base of the lung.

Points of interest in this case are:

1. The massive consolidation of the left lung, largely due to massive collapse, within one week of the first symptom of pulmonary tuberculosis.

2. The coughing up of a complete cast of the bronchial tree. Blocking of the bronchial passages with blood clot was evidently responsible for most of the pathological process that ensued in the patient's lung.

3. The retraction of the heart, which was not pronounced until about four weeks after the onset of the illness. Hennell[14] has reported a case in which this point was noted. The obvious explanation in our case is that the lung was "drowned" with blood and was thus unable to retract until the clot shrank and was coughed up as a cast, too late to permit of pulmonary reaeration.

The second case has features in common with and merges into those of the next group, those in which the onset presents the picture of a classical lobar pneumonia. The following are examples.

CASE III.—P.M., a female, aged forty years, had been known to have for ten years pulmonary tuberculosis of non-progressive type, with left apical fibrosis and cavitation (Figure VII) when in June, 1938, she developed left-sided pleurisy. Three days later signs of pneumonia appeared in the lower lobe, with a temperature of 104° F., and she was admitted to hospital. The clinical course

FIGURE VII.
Case III. Diagram showing fibrosis and cavitation in the left upper zone, and a small area of infiltration in the right upper zone. (February, 1938.)

of her illness was not unlike that of pneumonia, but her temperature fell by lysis and the signs of consolidation persisted, while the heart was seen to be drawn to the left. An X ray film in July showed collapse of the left lung, with heart and mediastinum drawn completely over into the left hemithorax (Figure VIII). In addition,

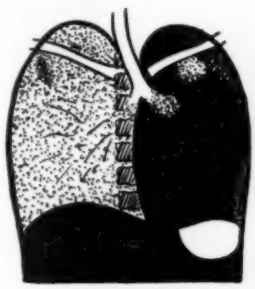

FIGURE VIII.
Case III. Showing collapse of the left lung with heart and mediastinum drawn to the left. (July, 1938.)

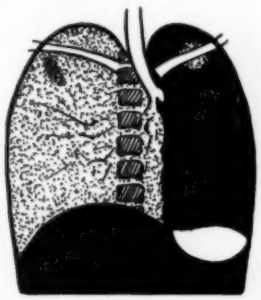

FIGURE IX.
Case III. Nine months later, showing still further retraction of the heart and mediastinum and collapse of the left lung. Portion of the right lung can be seen to the left of the vertebral column.

there was seen to be tuberculous infiltration in the right upper zone. Tubercle bacilli were present in the sputum. Since this time the patient has had sanatorium treatment and has made considerable improvement. The clinical findings and X ray evidence in March, 1939, however, revealed that the massive collapse of the left lung had persisted; and there was considerable cavitation throughout (Figure IX).

It seems quite likely that pneumonia, tuberculous or otherwise, was present at the onset. The collapse

element was recognized only in retrospect; but it has played a dominant part in the subsequent course of the disease and has resulted in gross destruction of the lung.

CASE IV.—A.E.M., a male, aged thirty-five years, had been in comparatively good health, though somewhat "run down", until he developed "influenza" in April, 1937. After working for a few days he became very ill and was admitted to hospital and treated for pneumonia. As this showed no sign of resolution at the end of four weeks, a skiagram was taken, which showed practically complete consolidation of the entire left lung (Figure X). Three weeks later a further skiagram showed that the heart was

FIGURE X.

Case IV. Diagram showing complete consolidation of the entire left lung.

now drawn to the left, proving that atelectasis was present (Figure XI). Tubercle bacilli were found in the sputum at this time, and he was referred for special institutional treatment. His general condition has improved during the past two years, but his left lung has remained com-

FIGURE XI.

Case IV. Three weeks later, showing the heart now drawn to the left, proving the presence of atelectasis.

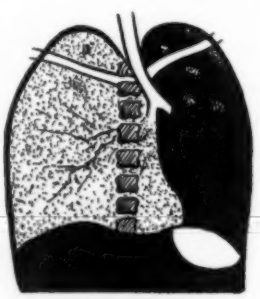

FIGURE XII.

Case IV. Two years later, showing still further collapse of the left lung and marked hypertrophy of the right lung.

pletely collapsed and the right lung shows considerable hypertrophy (Figure XII). Extensive cavitation is present in the left lung, and, as the right is comparatively free of disease, thoracoplasty is being considered.

Here too it is not denied that pneumonia was an adequate initial diagnosis, especially as, in contrast to the preceding case, which it parallels in clinical course and outcome, no previous diagnosis of tuberculosis had been made. Atelectasis, of course, is well known to be a factor in lobar pneumonia, and the heart is frequently found to be displaced to the affected side; but resolution and restoration of function are usually complete. We would here offer the tentative suggestion that acute pneumonic tuberculosis, caseous pneumonia, differs from other pneumonias in that there is a dominant underlying atelectasis, due to caseous débris or possibly tuberculous bronchitis causing bronchial obstruction. Whatever the cause, the lung remains collapsed. If this is so, bronchoscopy might be expected in some cases at least to remove the obstruction, to permit reaeration of the lung and thus to prevent permanent collapse, with its troublesome sequelæ.

Probably in many cases bronchial obstruction increases slowly, and there follows a gradual collapse, which may be symptomless and which may be recognized on the patient's ordinary visit, either by physical or radiological examination after perhaps quite a lengthy interval.

The next two cases of this type are illustrative of total atelectasis, insidious in origin.

CASE V.—J.F., a female, aged twenty-two years, was first diagnosed as having pulmonary tuberculosis in 1931. She was treated in a sanatorium and then by artificial pneumothorax therapy on the left side. She remained well and free of symptoms until October, 1937, when it was found that domestic trouble had caused great unrest

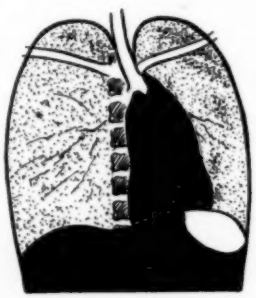

FIGURE XIII.

Case V. Diagram showing scattered areas of fibrosis, more marked on the left side. The heart and mediastinum are somewhat drawn to the left.

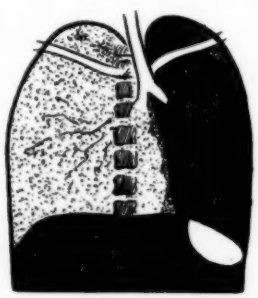

FIGURE XIV.

Case V. Eighteen months later, showing massive collapse of the left lung with extreme retraction of the heart and mediastinum.

and some deterioration in her condition. At this time radiological examination revealed small scattered fibrotic areas in both lungs, especially on the left side; the heart and mediastinum were somewhat drawn to the left (Figure XIII). She was readmitted to a sanatorium and spent fifteen months there, during which time the cough became worse, although her general condition remained quite good. Radiological examination on discharge in March, 1939, revealed massive collapse of the left lung with extreme retraction of the heart and mediastinum to the left (Figure XIV). Tubercle bacilli were still present in the sputum, but there had been no spread of disease in the right lung. Bronchoscopic examination was performed, but did not reveal any blocking of the left main bronchus.

It seems evident that in this case the collapse was an insidious and progressive process, associated with kinking of the bronchus and probably tuberculous bronchitis, though bronchoscopic evidence for this is lacking at the moment. Increasing cough and sputum indicate that bronchiectasis is now a superimposed complication.

CASE VI.—W.L., a female, aged fifty-seven years, reported to hospital in November, 1939, giving a history of morning sputum for three months. Clinical examination revealed dulness and bronchial breath sounds accompanied by coarse rales over the whole of the right side. The beat of the heart could be palpated about two inches to the right of the sternum. Radiological examination revealed a complete opacity of the right side of the chest, with the heart shadow totally merged therein. The left lung was apparently free of disease (Figure XV). Investigation of her past history showed that she had been a patient at another hospital five years previously. A report of a skiagram taken in 1934 showed "old tuberculous scarring in both apices". She stated that during the intervening five years she had been very well, perhaps a little short of breath, and that she had attended the clinic to be "checked up" on the advice of a visiting nurse.

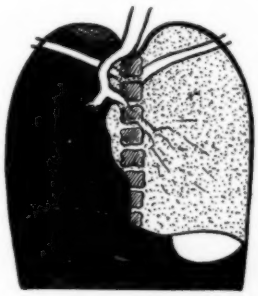

FIGURE XV.

Case VI. Diagram showing massive collapse of the right lung with extreme retraction of the heart and mediastinum to the right. Portion of the left lung can be seen to the right of the vertebral column.

She was admitted to hospital for further investigation. Her general condition was good and she was afebrile; but tubercle bacilli were found in her sputum. Bronchoscopy revealed marked kinking of the trachea and main bronchi, with some pus in the right bronchial tree. Intrapleural pressures were estimated and found to be highly negative, the readings being approximately – 35 and – 28 centimetres of water. The needle had in fact to be hurriedly withdrawn, as fluid in the manometer was rapidly sucked into the tubing leading to the patient's chest.

This case is an excellent example of massive collapse of the right lung with acquired dextrocardia. It would appear that as yet there is no gross infection of the patient's bronchial passages by organisms other than the tubercle bacillus. There seems to be little doubt, however, that at some future date she will develop all the unpleasant symptoms associated with bronchiectasis. But in view of her age we do not at present feel justified in recommending major surgical treatment.

The next three cases are of lobar atelectasis, the right upper lobe being involved in each.

CASE VII.—E.C., a male, aged thirty-three years, first came under our observation in May, 1939. A skiagram taken in January, 1938, revealed exudative tuberculosis of the right upper zone, with a large cavity and early left apical infiltration (Figure XVI). In December, 1938, the lesion in the right upper zone had diminished in extent (Figure XVII), and in May, 1939, further contraction of the lesion had occurred, undoubtedly the result of atelectasis involving the right upper lobe. This resulted in a small triangular area of fibrosis at the apex, with apparently complete obliteration of the cavity (Figure XVIII). Unfortunately, however, the left upper lobe had become further affected.

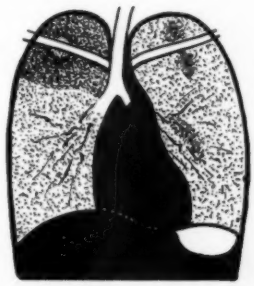

FIGURE XVI.

Case VII. Diagram showing exudative lesion with cavitation in the right upper zone. Patches of infiltration are present in the left lung.

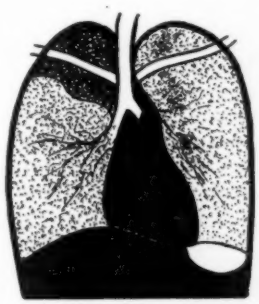

FIGURE XVII.

Case VII. Twelve months later, showing contraction of the lesion in the right upper zone.

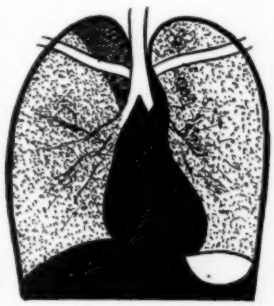

FIGURE XVIII.

Case VII. Six months later, showing a triangular area of fibrosis at the right apex with obliteration of the cavity.

CASE VIII.—E.W., a female, aged twenty-five years, presented herself in August, 1932, with a cough of four months' duration following a small hæmoptysis in April. Signs were extensive in the upper lobe of her right lung, and tubercle bacilli were present in the sputum. A skiagram showed a chronic tuberculous process in the right upper lobe, with cavitation (Figure XIX). Under rest

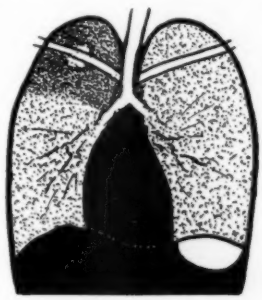

FIGURE XIX.

Case VIII. Diagram showing tuberculous lesion of the right upper lobe with cavitation.

and conservative treatment the patient made striking progress, losing all symptoms and gaining weight rapidly. A skiagram in July, 1933, showed a greatly contracted right upper lobe (folded fan), evidently atelectatic (Figure

XX). The patient kept well and returned to work. Twelve months later the right upper lobe was found to be further shrunken and the trachea to be deviated further to the right (Figure XXI). She has remained well and at work ever since.

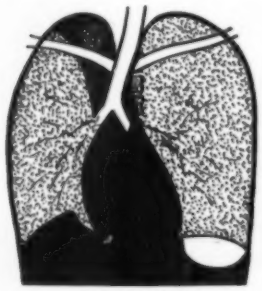

FIGURE XX.
Case VIII. Twelve months later, showing contraction of the right upper lobe.

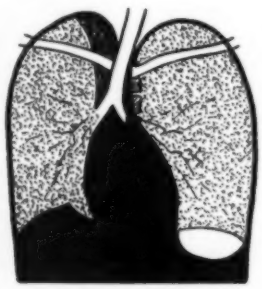

FIGURE XXI.
Case VIII. Twelve months later, showing further shrinking of the right upper lobe with displacement of the trachea to the right.

These two cases show how atelectasis can exercise a beneficial action in an upper lobe, where there is adequate drainage and no complication, such as bronchiectasis, need be feared. Radiography has demonstrated that this is not an infrequent mode of healing in pulmonary tuberculosis involving the upper lobe, and attempts have been made by various workers (Brooks[12][13] and others) to block the bronchus artificially and so to produce the same effect, but with varying success.

CASE IX.—R.C., a male, aged two and a half years, was admitted to hospital in September, 1939, with a history of feverishness, anorexia and cough for one week. He had a few rales in the right side of his chest and a provisional diagnosis of bronchopneumonia had been made. On admission he was thin and puny, but did not appear to be very ill.

His father had attended the pulmonary clinic at the hospital for several years and had recently been admitted to hospital in the terminal stages of pulmonary tuberculosis. The visiting sisters had reported that the father had been grossly careless in his home, and despite frequent warnings had not changed his habits. A Mantoux test was

FIGURE XXII.
Case IX. Diagram showing a "black" upper lobe with trachea drawn to the right ("epituberculosis").

therefore done on the child and the result was very strongly positive. X ray examination revealed an opaque area in the right upper zone region (Figure XXII), and the radiologist's report was: "Lesion is probably tuberculous, possibly with an element of atelectasis due to bronchial occlusion."

During the patient's subsequent stay in hospital over a period of ten weeks no elevation of the temperature occurred and there was very little clinical change in his condition. Four examinations of his gastric contents failed to reveal the presence of tubercle bacilli. Serial radiograms showed no change to the time of his discharge early in December, when he went to the country.[1]

This case may possibly be one of slowly resolving pneumonia; but the condition is probably one of "epituberculosis". Epituberculosis is the term coined by Eliasberg and Neuland to describe the areas of dulness found sometimes in cases of primary pulmonary tuberculosis, now believed to be due to lobar or lobular collapse (Burton Wood[15]). This diagnosis seems likely to be correct in view of: (*a*) the very grave risk to which the child had been submitted in his home, (*b*) the strongly positive Mantoux reaction, (*c*) lack of evidence of constitutional disturbance, (*d*) the radiological evidence, very suggestive of atelectasis of the right upper lobe.

Sometimes the patient first comes under observation with an indefinite history and with unilateral chest signs so obvious as to demand a provisional diagnosis of bronchial occlusion, with the strong probability that it is due to a foreign body or neoplasm.

The following two cases in this category have been very instructive.

CASE X.—M.W., a female, aged twelve years, an aboriginal child, spent one month in a sanatorium in October, 1936, but was diagnosed as non-tuberculous and was referred to hospital for further investigation. Her history was vague and was one of cough and slight

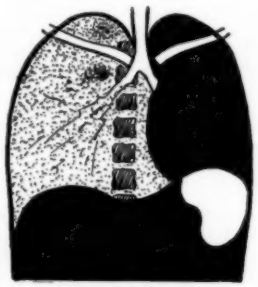

FIGURE XXIII.
Case X. Diagram showing complete collapse of the left lung, with lighter areas suggestive of cavitation. The heart and mediastinum are drawn well to the left and the right lung is seen to the left of the vertebral column.

sputum for an uncertain time and of loss of weight and strength. There was no family history of tuberculosis. Physical signs and X ray evidence were of complete collapse of the left lung with the trachea and heart drawn well to the left (Figure XXIII). It was considered likely

[1] Since this article was submitted for publication the child (Case IX) has reported for reexamination in March, 1940. He has gained in weight and looks much better. X ray examination now reveals clearing of most of the lesion in the right upper lobe towards the periphery. There is still some infiltration radiating outwards from the hilar region, and the trachea is still drawn to the right. There is a dense round shadow in the upper part of the right hilum, consistent with enlarged hilar glands.

that a foreign body was responsible for the condition and bronchoscopy was advised. Unfortunately the child died just as the surgeon was about to commence the examination, evidently from an overdose of intravenously administered anæsthetic. At *post mortem* examination the left lung was found to be adherent and the lung tissue was fibrous and almost entirely airless. A series of irregular abscesses were deeply embedded in its substance. It is noteworthy that the morbid anatomist at this stage did not consider the condition to be a tuberculous one. Section of the right lung, however, revealed small nodular tubercles in the upper lobe and tubercle bacilli were found in profusion in a smear taken from the left lung. Tuberculous ulceration was also found in the large intestine.

This case is conspicuous for the extent of tuberculous disease shown to be present in a child without a definite history of illness. More important, however, is the evidence proved by autopsy, that an atelectatic tuberculous lung may closely resemble one affected by chronic suppurative pneumonitis, with extensive fibrosis and abscess formation. We have been struck by the remarkable similarity between the *post mortem* findings in this case and in one described by Clark, Hadley and Chaplin[16] in their classical monograph on fibroid disease of the lungs. Massive collapse was not recognized in those days (the book was published in 1894), but it is quite evident that in many of their cases of fibro-tuberculous and tuberculo-fibroid disease this complication had occurred. In fact it is probable that "fibroid phthisis", which they believed to be non-tuberculous, was occasionally the end result of a tuberculous process, burnt out, as it were, by atelectasis.

Unfortunately the exact cause of the bronchial occlusion was not noted in this case, except that there was no foreign body.

CASE XI.—M.P., a female, aged thirty-five years, first came under observation in November, 1938. She gave a history that she had had twenty teeth removed under a general anæsthetic two and a half years previously. She felt "knocked out" for several weeks, but then recovered and felt well until two months previously,

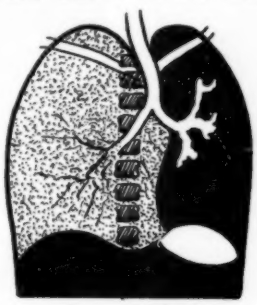

FIGURE XXIV.

Case XI. Diagram showing total collapse of the left lung with extreme displacement of the heart and mediastinum. Kinking of the left main bronchus and dilatation of the left bronchi are shown after the introduction of lipiodol.

when she had developed a dry tickling cough with pains in both shoulders. She was also slightly dyspnœic on exertion. Her clinical signs were those of massive collapse of the left lung, and the heart was displaced towards the left axilla, where the apex beat was easily palpable. Radiological examination confirmed these findings and also revealed great kinking of the trachea. It was thought that a foreign body in the left main bronchus was probably responsible for her condition, and that possibly this had entered the bronchial passages at the time of the dental operation. She was admitted to hospital, where routine examination of her sputum revealed the presence of tubercle bacilli. Bronchoscopic examination revealed marked kinking of the left main bronchus, and on this account the bronchoscopist could not pass his instrument further. However, lipiodol was introduced and demonstrated gross dilatation of the whole of the bronchial passages on the left side, as well as obvious kinking of the left main bronchus (Figure XXIV).

The clinical course of the patient during twelve months' observation has been uneventful. Tubercle bacilli are constant in her sputum, which is never copious. There has been no radiological change, the right lung appearing free of disease. Consideration is now being given to radical treatment, the choice lying between total thoracoplasty, which could hardly be expected to give the desired "sputum negative" result, and pneumonectomy, a more hazardous procedure, which nevertheless has been shown recently to be a rational and successful surgical operation in selected cases of pulmonary tuberculosis (Jones and Dolley[17]).

It may be noted in passing that the result of the sputum examination came as a complete surprise; but it illustrates how essential this is as a routine procedure in all patients who have respiratory symptoms. We would emphasize that the examination is incomplete in doubtful cases unless gastric lavage and sputum culture have been carried out.

As stated earlier, atelectasis does not develop in uncomplicated collapse therapy. As a complication it does occur, and probably far more frequently than is generally recognized. From quite a number of cases we have selected four, in two of which it was a sequel of artificial pneumothorax and in two a transient affair after crushing of the phrenic nerve. So far no case has come under our observation following thoracoplasty. Atelectasis, of course, is a complication which must be recognized early after this operation and active treatment instituted, else catastrophe may result.

CASE XII.—J.B., a female, aged twenty-one years, was found in January, 1936, to have right upper lobe tuberculosis (Figure XXV), for which she was treated by artificial pneumothorax therapy. She made satisfactory

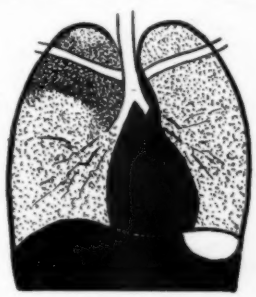

FIGURE XXV.

Case XII. Diagram showing a tuberculous lesion of the right upper lobe.

progress, but it was noted radiologically in April that the upper lobe was consolidated (Figure XXVI). Fluid led to creeping adhesions, and the treatment was maintained only for twelve months; this sufficed, however, to lead to arrest of the disease process. Signs since this time have been obvious: (*a*) falling in of the chest wall,

especially noticeable below the clavicle; (*b*) traction of the trachea to the right; (*c*) impaired percussion note; and (*d*) bronchial breathing over the right apex. Radiologically, the upper lobe is completely collapsed, with the upper mediastinum drawn to the right (Figure XXVII). The patient has for the past three years been leading an active life, free from symptoms.

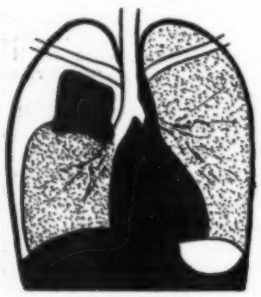

FIGURE XXVI.
Case XII. Four months later, showing the right upper lobe, "black", with air in the right pleural cavity.

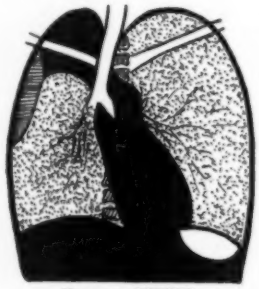

FIGURE XXVII.
Case XII. Eight months later, showing reexpansion of most of the right lung, with thickening of the pleura in the axillary region. The upper lobe has remained "black" and the trachea is drawn to the right.

Here we can presume that kinking of the upper lobe bronchus occurred as a result of the artificial pneumothorax with lobar atelectasis, which, as we have discussed earlier, facilitated the healing process. This is a good example of the so-called "black lobe" of Lee Lander and Davidson.[18][19] In their papers they point out that the black lobe is in reality a lobar massive collapse, and that bronchiectasis is a sequel thereof if the condition is basal.

CASE XIII.—I.P., a female, aged twenty-one years, was first seen in June, 1933, suffering from right upper lobe tuberculosis with cavitation (Figure XXVIII). Artificial pneumothorax was commenced and satisfactory collapse obtained, with control of the lesion. In February, 1934, fluid was detected, but as it was causing no symptoms it was not removed. Twelve months later the patient had some blood-stained sputum. A specimen at this time failed to show tubercle bacilli, but by X ray examination

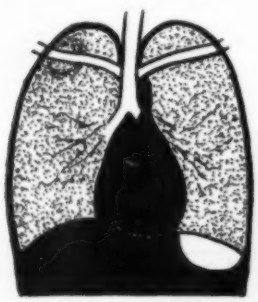

FIGURE XXVIII.
Case XIII. Diagram showing a tuberculous lesion with cavitation in the right upper lobe.

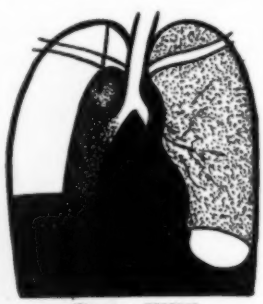

FIGURE XXIX.
Case XIII. Eighteen months later, showing good collapse of the lung by artificial pneumothorax with some fluid in the pleural cavity. Despite the collapse, cavitation is still present.

evidence of cavitation could be seen in the well-collapsed lung (Figure XXIX). Subsequent progress has been interesting: (i) The patient has remained well, though before "fills" she has cough and sputum with has occasionally been "red". (ii) Sputum has been persistently "negative" for tubercle bacilli. (iii) Serial skiagrams have shown complete collapse of the right lung, with the heart gradually moving across to the right despite a total pneumothorax, until it is now completely in the right hemithorax; a small puddle of fluid has been noted occasionally (Figures XXX, XXXI, XXXII).

FIGURE XXX.
Case XIII. Two years later, showing the right lung well collapsed by artificial pneumothorax. No evidence of cavitation is now present. Note the slight displacement of the heart and mediastinum.

(iv) Artificial pneumothorax refills have been continued at intervals of about two months; and a striking feature has been the increasingly negative pressure registered at the commencement of the fill. During the past two years an average fill has been – 25, – 15, 800 centimetres of air, – 3, + 2 centimetres of water. These readings are, of course, characteristic of atelectasis.

FIGURE XXXI.
Case XIII. Fifteen months later. Further traction of the heart and mediastinum to the right has occurred. The right lung is still well collapsed by artificial pneumothorax.

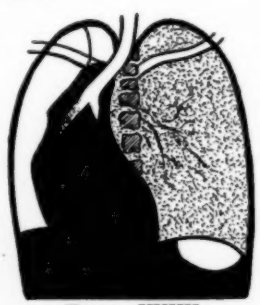

FIGURE XXXII.
Case XIII. Twelve months later, showing still further traction of the heart and mediastinum. The heart is now almost completely in the right hemithorax and the right lung is atelectatic, but artificial pneumothorax is still present.

Here we are faced with a dilemma. If treatment is abandoned, gross bronchiectasis will result and an effusion will form. It would seem safer to continue refills indefinitely or at least until the pneumothorax cavity is obliterated; but in either case the end result must be a bronchiectasis with gross fibrosis, as in Case XI. Should this be anticipated while the patient is fairly well by a pneumonectomy, before the lung becomes adherent; and if so, would thoracoplasty be required later? We have not found in the literature any description of a similar case; but it must be a fairly common type. At any rate, suggestions would be welcome as to future treatment, both in this case and in Case XI.

Hilary Roche[21] has reported a case of artificial pneumothorax complicated by acute lobar atelectasis, which cleared up in two weeks. The following two cases also showed a transient massive collapse, but the cause thereof was a phrenic nerve operation.

CASE XIV.—M.B., a female, aged twenty-six years, was first seen in November, 1937, with extensive left-sided pulmonary tuberculosis, and artificial pneumothorax was commenced. Four months later, as an upper lobe cavity

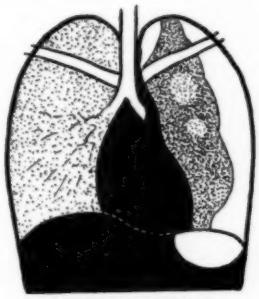

FIGURE XXXIII.
Case XIV. Diagram showing a tuberculous lesion of the left lung with cavitation. Artificial pneumothorax has been induced, but the lesions are uncontrolled, due to a broad adhesion at the apex.

was held out by broad adhesions (Figure XXXIII), the phrenic nerve was crushed. A skiagram taken two days after the operation revealed lower lobe atelectasis (Figure XXXIV). There was no reaction, however, and one week later the lobe was again aerated (Figure XXXV).

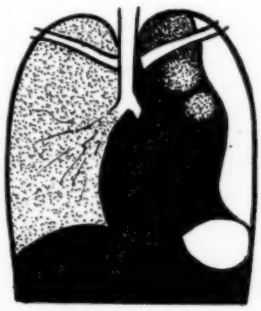

FIGURE XXXIV.
Case XIV. Four days later and two days after phrenic paralysis, showing a black lower lobe.

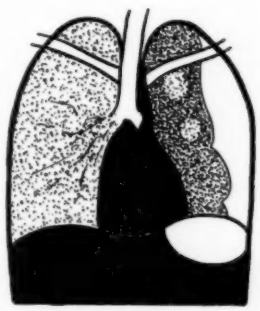

FIGURE XXXV.
Case XIV. One week later, showing reaeration of the lower lobe on the left side.

CASE XV.—G.F., a female, aged thirty years, was treated by artificial pneumothorax in January, 1938, for left upper lobe tuberculosis (Figure XXXVI). As the apex was widely adherent, phrenic crush was carried out one month later. This was followed by considerable constitutional disturbance, and a skiagram on the following day showed atelectasis of the lower lobe (Figure XXXVII). This reaerated slowly, but the apical cavity increased in size (Figure XXXVIII). Subsequently the right lung became involved and the patient's condition has deteriorated.

It is possible in both these cases that kinking of the bronchus followed rise of the diaphragm, which was considerable. Retention of secretions may have been the cause, as suggested by Alexander;[20] but some would ascribe it to nervous influences. At any rate, they serve to draw attention to an occasional complication of a simple procedure, which may, however, have serious results.

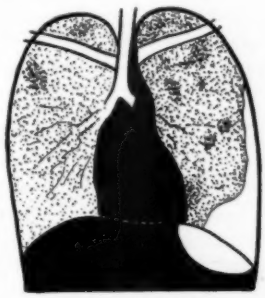

FIGURE XXXVI.
Case XV. Diagram showing a tuberculous lesion of the left lung with cavitation uncontrolled by artificial pneumothorax.

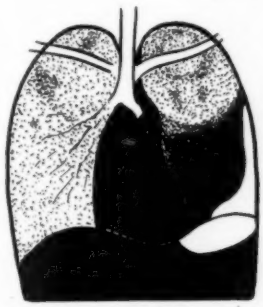

FIGURE XXXVII.
Case XV. One week later and one day after phrenic paralysis showing atelectasis of the lower lobe on the left side.

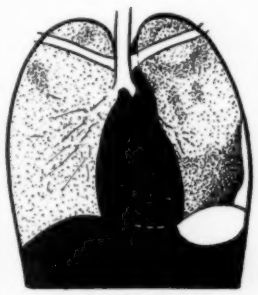

FIGURE XXXVIII.
Case XV. One week later, showing reaeration of the lower lobe on the left side.

Discussion.

Most writers on the subject emphasize that atelectasis in pulmonary tuberculosis is more common than is generally recognized.[3][22][23]

One of the first to draw attention to this complication was Packard,[24] who in 1928 described four cases showing massive collapse, in two of which autopsy revealed bronchial obstruction as the prime ætiological factor. He also made two very important observations, namely, that massive collapse of the right lung is one of the causes of acquired dextrocardia, and that rapid massive pulmonary fibrosis of a lobe or whole lung is probably in its origin a massive atelectasis. These observations have been abundantly confirmed by other workers. In our series Case VI is an excellent example of acquired dextrocardia.

Chronic pulmonary tuberculosis is almost inevitably bilateral. Therefore, in all cases in which massive fibrosis of one lung only is present and in which the cause is known (and for that matter unknown, as in Cases X and XI), the possibility of atelectasis should be considered. Physical examination of patients showing massive collapse nearly always reveals gross signs, and particularly if superadded bronchiectasis has developed. The out-

standing clinical sign is displacement of the heart to the affected side; and this may be extreme, as in Case XI, in which the apex beat was felt in the axilla on the left side. Radiological examination for displacement is an invaluable aid, especially when this cannot be ascertained by clinical means. Two other important signs associated with major atelectasis are: (*a*) a high negative intrapleural reading,[25][26][5] as in Case VI, and (*b*) mobility of the mediastinum, as seen under the fluoroscopic screen. In long standing cases mensuration also reveals contraction of the affected side.[22]

It is rather surprising that patients with total atelectasis manifest so little toxæmia; many in fact have few symptoms, perhaps some dyspnœa on exertion. Others, however, have considerable dyspnœa and all the symptoms of advanced pulmonary disease, including copious cough and sputum. This would seem to depend on the degree of bronchial obstruction. In extreme cases, in which the bronchus has been permanently occluded (as in Sanes and Smith's case[3]), the whole lung becomes a small cirrhosed organ, perhaps a quarter the size of its fellow, and symptoms are negligible. Should the obstruction in the affected bronchus be less complete, or if recanalization of the affected bronchus or bronchioles has occurred, varying degrees of fibrosis in the affected lung or lobes must occur, associated with varying degrees of bronchiectasis.

Continued deprivation of oxygen by the bronchial passages brings with it not unmixed blessings to the patient. As Coryllos[5] has pointed out, this means death to the tubercle bacillus and an immediate reparative attempt by Nature in the production of fibrous tissue. But the formation of interstitial fibrous tissue, acting in conjunction with a high negative intrapleural pressure, is responsible for the development of bronchiectatic cavities. Furthermore, when intrapulmonary cavities are already present, all the conditions are ideal not only for their retention and enlargement, but also for the development of others. It is in such cases (as in Case III and Case IV of our series) that the original cause, namely, the tubercle bacillus, may be completely obscured.

It is in advanced cases of chronic interstitial pneumonitis, the sequel to total atelectasis, that the most obvious physical signs are usually obtained. Many of these cases, of course, are the delight of examiners of students in final degree examinations. By contrast, we would point out the paucity of clinical signs in a large number of cases of chronic bilateral fibroid phthisis.

In our series it is of interest to note the preponderance of cases showing collapse of the left lung (ten left, five right). These figures are too small to be of any significance; but the point has also been noted by Glenn.[6] The same author makes the suggestion that as in his cases there was always a cavity in the upper lobe, atelectasis was probably caused by blocking of the bronchi with thick tenacious exudate secreted by the cavity.

It is to be regretted that in our series we have so little evidence regarding the condition of the trachea and bronchi. During the past few years much valuable information has been obtained by bronchoscopy in pulmonary tuberculosis. McIndoe and his co-workers, performing routine bronchoscopy among patients in a sanatorium, found lesions of the bronchi in 11%. Werner[9] and Cohen and Wessler[10] suggest that the symptom of wheezing in a tuberculous subject should always be investigated by the bronchoscope. However that may be, we feel sure that tuberculous lesions in the bronchi have been responsible for some at least of our cases, and we hope in the future to direct more attention to this particular point. Diagnostically, bronchoscopy will be of great value, and therapeutically it may be able to restore function which would otherwise be irretrievably lost.

The treatment, if any, of pulmonary atelectasis, would seem to depend on the cause and duration of the phenomenon. As in cases of massive collapse of the lung following operation and those associated with the presence of foreign bodies in the bronchi, so in atelectasis in pulmonary tuberculosis, in which the condition is due to blood clot or thick tenacious mucus, reaeration and recovery may follow removal of the obstruction (Case I). We would therefore stress the need for a consideration of bronchoscopic examination in such cases when it seems likely that the lung may not recover spontaneously. On the other hand, such a procedure may be fraught with grave risk to the patient, as in Case II of our series, in which it would obviously have been very dangerous.

In long-standing chronic fibroid phthisis with cavitation or with bronchiectasis following atelectasis, bronchoscopy would also seem to offer possibilities of help. Two forms of treatment of bronchial stricture have been suggested: (*a*) dilatation (Ormerod[11]) or (*b*) occlusion (Cohen and Wessler[10]).

It seems to us that occlusion is the more logical procedure. Attempts to obtain this by escharotic agents, diathermy and the like have been unsuccessful in human beings. Theoretically, complete occlusion of the main bronchus should ultimately produce massive fibrosis of the lung and eliminate the risk of infection of bronchiectatic cavities in the collapsed lung, thereby freeing the patient of most of the symptoms and risks of this unpleasant disease. No doubt, too, bronchoscopic aspiration, together with postural drainage, is a palliative measure in many cases. But, as in simple bronchiectasis, they can afford only temporary relief.

It remains only to consider briefly the possibility of attempting to cure the condition, either by some form of collapse therapy or by actual extirpation of the diseased area. Further treatment of the sequelæ of pulmonary atelectasis must entirely depend on the severity of symptoms. Two forms of surgical treatment of patients with gross bronchiectasis or some symptom such as recurring hæmop-

tysis must be considered, namely, (i) collapse therapy by (*a*) induction of an artificial pneumothorax, (*b*) phrenic paralysis, or (*c*) thoracoplasty; (ii) pneumonectomy or lobectomy.

It may appear paradoxical to consider collapse therapy as a means of combating atelectasis when we have already reported cases which have been associated therewith. The object of collapse therapy in chronic pneumonitis with bronchiectasis, however, is to endeavour to obtain still further collapse and fibrosis and to help the closing of the bronchiectatic cavities. Hennell[14] in 1931 noticed that one patient who developed an effusion on the side of the collapsed lung was greatly relieved. He therefore suggested that it would be logical to adopt some form of collapse therapy. Glenn[6] treated a number of patients by artificial pneumothorax apparently with great benefit. But it is fairly obvious that this can only relieve and does not hold prospects of ultimate cure.

Phrenic paralysis cannot be considered as likely to be of any assistance.

Thoracoplasty, a much more drastic form of treatment, however, offers the possibility of an ultimate effective cirrhosis of the affected lung with closure or obliteration of the cavities. In most cases very extensive rib resection will be required, and before the patient is submitted to this procedure a very careful estimation of the risks must be made.

Pneumonectomy or lobectomy is the procedure which theoretically offers complete cure of the sequelæ of atelectasis. These operations in pulmonary tuberculosis have been successfully performed by several surgeons. Jones and Dolley[17] and other American surgeons have now reported successful cases. There seems to be little doubt that with increasing surgical experience and improvement in technique pneumonectomy will be less formidable, while lobectomy in the past few years has become a major operation with an extremely low mortality rate.

It is not our purpose, however, to discuss indications for and against surgical procedures. It is probable that in most cases no active treatment, unless it be bronchoscopy, will be necessary. We feel it reasonable to assert in conclusion that as more of these cases of atelectasis complicating pulmonary tuberculosis are brought to light, the better will the physician be enabled to offer guidance as to the ultimate prognosis and correct management.

Summary.

1. Atelectasis has been discussed as a not infrequent complication of pulmonary tuberculosis, a classification has been offered of the various modes of its occurrence, and cases have been described illustrating the different groups.

2. It is noted that unilateral chronic fibroid phthisis often has atelectasis as its background; some points of differentiation between fibroid phthisis and atelectasis are mentioned.

3. The assistance that bronchoscopy can give in both the diagnosis and treatment of this condition is emphasized.

4. It is suggested that, once established, atelectasis may result in apparent cure of the tuberculous process, but that in certain events major surgical procedures may have to be considered.

Acknowledgement.

Our acknowledgement must be made to Mr. Lyall Trindall for the skilful and painstaking drawings he has made from the skiagrams.

References.

(1) W. A. Bye: "Massive Collapse of the Lung", THE MEDICAL JOURNAL OF AUSTRALIA, July 22, 1939, page 129.

(2) Max Pinner: Writing in "Collapse Therapy of Pulmonary Tuberculosis", by John Alexander, 1937, page 68.

(3) Sanes and Smith: "Massive Pulmonary Atelectasis following Bronchial Obstruction in Tuberculosis", *American Review of Tuberculosis*, Volume XXXVI, 1937, page 727.

(4) A. K. Miller: "Atelectasis in Pulmonary Tuberculosis", *Tubercle*, Volume XX, 1939, page 384.

(5) Pol. N. Coryllos: "The Importance of Atelectasis in Pulmonary Tuberculosis", *American Review of Tuberculosis*, Volume XXVIII, 1933, page 1.

(6) E. E. Glenn: "Massive Atelectasis in Pulmonary Tuberculosis and its Treatment by Artificial Pneumothorax", *American Review of Tuberculosis*, Volume XXIII, 1931, page 507.

(7) McIndoe, Stede, Samson, Anderson and Leslie: "Routine Bronchoscopy in Patients with Active Pulmonary Tuberculosis", *American Review of Tuberculosis*, Volume XXXIX, 1939, page 617.

(8) S. J. Shipman: "Diagnostic Bronchoscopy in Occult Tuberculosis", *American Review of Tuberculosis*, Volume XXXIX, 1939, page 629.

(9) W. I. Werner: "Tuberculous Tracheitis", *American Review of Tuberculosis*, Volume XXXIX, 1939, page 637.

(10) A. G. Cohen and H. Wessler: "Clinical Recognition of Tuberculosis of the Major Bronchi", *Archives of Internal Medicine*, Volume XXXIX, May, 1939, page 1132.

(11) F. C. Ormerod: "Tuberculous Tracheo-bronchitis", *The British Journal of Tuberculosis*, Volume XXXIII, January, 1939, page 29.

(12) W. D. W. Brooks: "Induced Selective Collapse in Pneumothorax Therapy", *Brompton Hospital Reports*, Volume VII, 1938, page 50.

(13) W. D. W. Brooks: "An Ancillary Method in the Treatment of Pulmonary Tuberculosis", *The British Journal of Tuberculosis*, Volume XXXII, Number 1, 1938, page 14.

(14) Herman Hennell: "Atelectasis as a Factor in the Evolution of Chronic Fibroid Pulmonary Tuberculosis", *American Review of Tuberculosis*, Volume XXIII, 1931, page 461.

(15) Burton Wood: "Epituberculosis", *Tubercle*, Volume XX, February, 1939, page 205.

(16) Clark, Hadley and Chaplin: "Fibroid Diseases of the Lung", 1894, page 123.

(17) Jones and Dolley: "Lobectomy and Pneumonectomy in Pulmonary Tuberculosis", *The Journal of Thoracic Surgery*, Volume VIII, April, 1939, page 351.

(18) Lee Lander and M. Davidson: "The Ætiology of Bronchiectasis, with Special Reference to Pulmonary Atelectasis", *British Journal of Radiology*, Volume II, February, 1938, page 65.

(19) Lee Lander and M. Davidson: "The Pathogenesis of Bronchiectasis", *The British Medical Journal*, May 14, 1938, page 1047.

(20) John Alexander: "The Collapse Therapy of Pulmonary Tuberculosis", 1937, page. 187.

(21) Hilary Roche: "Artificial Pneumothorax Complicated by Acute Lobar Atelectasis", *The British Journal of Tuberculosis*, Volume XXXI, Number 1, 1937, page 34.

(22) Ephraim Korol: "Atelectasis in Pulmonary Tuberculosis", *American Review of Tuberculosis*, Volume XXIII, 1931, page 493.

(23) Ernest Fletcher: "Atelectasis, Delectasis and Apneumatosis", *Tubercle*, Volume XIV, October, 1932, page 3.

(24) E. N. Packard: "Massive Collapse Associated with Pulmonary Tuberculosis and Tumor", *American Review of Tuberculosis*, Volume XVIII, 1928, page 7.

(25) D. C. Elkin: "Intrapleural Pressure in Post-operative Atelectasis", *Annals of Surgery*, Volume LXXXVI, 1927, page 885.

(26) C. C. Habliston: "Intra-pleural Pressures in Massive Collapse of the Lung", *The American Journal of the Medical Sciences*, Volume CLXXVI, 1928, page 830.

AUSTRALIAN MEDICAL WORK IN KOREA.

By CHARLES I. MCLAREN, M.D. (Melbourne),
Australian Presbyterian Mission, Paton Memorial Hospital, Chinju (Shinshu) Chosen, Korea.

THESE are days when Australia, even though she is involved in war in Europe, is turning her attention also, and with not a little apprehension, to the Far East. Readers of THE MEDICAL JOURNAL OF AUSTRALIA may well be interested in a large piece of medical work which is being carried on in Korea by a team of their Australian medical and nursing compatriots.

The medical work is an important part of a larger undertaking. That undertaking is probably the largest, as I think it is the most important cultural and spiritual, link between Australia and the Japanese Empire. A group of some thirty Australian men and women, many of them graduates of Australian universities, having made their homes in Korea, are making faith, goodwill and friendship their stock-in-trade with the Korean and Japanese people with whom they come in contact. Whence derives this adventure in practical idealism? It is part of the answer of the Church in Australia to the ominous problems of Australia's world relations, especially her critical relations in the Orient. In Tokyo the Australian Commonwealth is officially (and, one may venture to add, admirably) represented by her Trade Commissioner, Lieutenant-Colonel Longfield Lloyd. Trade is an honourable affair; but there are higher values than even the most successful and honourable trade. It is with these other values that the medical work which is the subject of this article is concerned.

There are at present two doctors and four nurses with one non-professional superintendent of a leper asylum engaged in this medical work in Korea. Three flourishing baby health centres are building healthy babies and introducing higher standards and conceptions of child welfare. A remarkable leper asylum and hospital are caring for, rehabilitating and often bringing curative arrest to the 500 inmates. It is interesting to note that leprosy in Korea responds very encouragingly to treatment. In some other places where leprosy is endemic doubt has been expressed as to the real value of chaulmoogra oil. Not so in Korea, where authorities agree that the introduction of these injections has marked a real advance; but these authorities are as emphatic in saying that exercise, work, diversion, self-respect, hope and faith are essential factors in the gratifying rate of improvement, even of cure, which the hospitals in Korea are able to report.

Another important undertaking in which our staff is concerned is share in the conduct of a medical school in Seoul, the capital of the peninsula. For sixteen years I was in charge of the Department of Neurology and Psychological Medicine. In that capacity it was a deep satisfaction to me, a former student of Sir Richard Stawell, to pass on to Oriental students some of those living principles of neurology which I had learned from the greatest of Australia's clinical teachers.

It is, however, especially of the hospital at Chinju that I write. Western medicine was introduced into this district by a man who showed the authentic marks of a pioneer. It was a new epoch which opened in this age-long town when in 1904 Dr. Currell and his plucky young wife and, *mirabile dictu*, two tots of girls settled first in a little native house in the centre of the town. It was the beginning of a great and successful adventure. Dr. Currell acquired property, built homes, hospital, church and school; he ministered to the sick, was pastor, itinerator, gardener, schoolmaster, veterinarian, banker and whatnot beside. First as colleague (in 1911) and later as successor to Dr. Currell, it has been my privilege to be associated for many years with the development and conduct of this work. There was no hospital when I arrived, though the foundations had been laid. The building progressed to completion. How we watched the contractor with his "ways that are dark and tricks that are vain". The building was almost completed; it was destroyed by fire. We built again. There was no staff; we had to select and train it. There was no technique for the conduct of a hospital; we had to devise and apply it. There were no Korean names or labels for the drugs. With English and through the medium of Japanese and the Chinese ideogram that difficulty was surmounted; but all was not smooth sailing. (I remember a willing but ignorant dresser who began to apply nitric acid instead of olive oil to a wound. The dressing was halted by the protests of the patient.)

Who for nurses? We needs must make shift in male wards with male attendants, and the best we could do in the female wards was to begin with two widows and one separated wife; and two of the three had to be taught the elements of writing and arithmetic. What an advance on that is our present happy status, with efficient graduate nurses in charge of wards and operating theatre and with school graduates as probationers. Actually we have also on our staff a capable and eager young Korean graduate nurse whom some readers of the journal may have seen at work last year when she and a companion were gaining experience in various hospitals in Melbourne.

Every department of the hospital's work has grown since those early days. There is in-patient accommodation for just under 50 patients. There were 20,000 attendances of out-patients last year. There were 500 operations under general and spinal anæsthesia and 350 under local anæsthesia. The total cost of the hospital last year (including western doctors and nurse's salary) amounted to £2,500. Of this, £1,500 was earned by the hospital as fees; the remaining £1,000 came as subsidy from friends in Australia. It is our policy to charge small fees to those who can pay and to give free treatment to those who cannot pay.

The hospital has been particularly well served in the successive nursing superintendents who have directed the nursing and domestic side of its work. Foundations were laid by Miss F. L. Clerke, of the University of Adelaide, and later of the Hobart General Hospital. Miss Clerke's nightly rounds—these in the days before electric light had come to Chinju—earned for her, as successor to the greatest of nursing pioneers, the title among us of "The Lady with a Lamp". Miss Clerke was succeeded by Miss G. Napier, of the Teachers' Training College and the Royal Infirmary, Edinburgh. The impressive bunch of keys always at Miss Napier's side earned for her the title of "The Lady with the Keys". Miss E. Dixon's wide experience of nursing and baby health centre work in Victoria helped forward that side of our medical service in this province. The present matron is of pioneering stock. Daughter of a member of the Royal Anthropological and Geographical Societies, she was born on the Thibetan borders of western China. After graduating as gold medallist of her year at the Adelaide General Hospital, she served in a lonely nursing outpost of the Australian Inland Mission in the days before wireless and the flying doctor.

Worthy colleague of these nursing pioneers, a woman doctor has added laurels to women's medical achievements. Dr. Jean Davies, of Melbourne, brought the special training which resident work at the Queen Victoria and Melbourne Children's Hospitals had given her to build up for this hospital a reputation in gynæcological surgery and children's diseases. Later, after Dr. Taylor's sudden death, Dr. Davies carried the burden (no easy one for a woman in the circumstances of Korean society) of superintendent of the hospital.

As befits an Australian hospital (for Australia was the first country in the world to write the principle of "the living wage" into her statute books) more than ordinary thought has been taken for the economic welfare, hours of duty and standards of living of the staff—and this in a country where such conceptions lag far behind those of more privileged countries. The spirit of the staff is more than democratic; it approximates to that of a family. It was my privilege last week to join in a picnic with all members of the staff who could be off duty. Apparently the senior doctor could eat and play with the hospital cleaner, and that without embarrassment or loss of dignity. In gatherings of the Hospital Society, all from the doctors to the kitchen cleaners and the furnace stoker gather in a common fraternity, and the humblest member of the staff may speak, on matters within his competence, and receive a respectful hearing from all—and this not to the detriment of discipline, but rather to its enhancement.

Climate and environment have exacted certain structural arrangements in the building and its equipment different from those which obtain in Australia. Double windows keep out the cold in winter, and wire netting gives protection from insect pests. The building is centrally heated. As one approaches the hospital a stone tablet meets the eye; these tablets are dear to the hearts of Koreans. This one certainly is interesting. Koreans, considerately, do not wait till a man dies before they erect in his honour what looks like his tombstone, and sounds even more like it. There the gratified subject of laudation may read of his own shining virtues and meritorious service. This particular stone was subscribed for by the cents of vagrant lepers, for whom Dr. Taylor (called from us by death last year) had for years maintained an injection clinic. It is distressing to relate that the clinic no longer functions. This from no desire of ours, but by police prohibition. It is fair to say in explanation that the neighbourhood protested that lepers were being drawn to the district. But no alternative site is suggested, and though there are lepers everywhere, nowhere may they be brought to injection clinics. The Government is now spending much money on leper asylums, but is defeating any plans to deal with the leper menace effectively by failing to deal with the earlier and infective cases.

My three medical assistants are all graduates of the Severance Medical College. Dr. Kim, the senior, is of three years' standing. He is in charge of the surgical department (the majority of our beds are surgical). He is efficient and has good judgement. Major operative procedures, such as gastro-enterostomy or hysterectomy, he takes in his stride. His keenness is demonstrated in that he elected to spend most of his summer vacation sweltering over in Tokyo at a course of post-graduate surgery. Next in seniority is the man in charge of the eye and ear department. In the medical department I am glad to have a man who has done some special work in tuberculosis. Tuberculous disease is the major problem of medicine in this country.

We are not a little proud of our recently opened dental department. We instituted it in the way dear to the hearts of Koreans—by a fine splash of impressive equipment. Certainly the up-to-date Japanese manufactured dental chair and unit are as impressive as I hope they are efficient. The dentist in charge is the wife of our surgeon. She graduated, one of three Korean women, in a women's dental school in Tokyo.

The clinical laboratory and X ray departments are in charge of a technician. He is away at present learning latest methods at one of the other hospitals. In addition to medical and technical workers there are two full-time members of the staff, one a man, the other a woman, whose duties are to minister to the patients in all sorts of ways which will be spiritually and generally helpful to them; their functions combine those of almoner and chaplain in an Australian hospital. Especially in cases of nervous breakdown and like problems I find myself turning for valued help to these two.

Striking likenesses and as noticeable contrasts present when one compares the medical situation in Korea and in Australia.

As to the incidence of disease, I have been struck with the fact that rare developmental abnormalities of the nervous system, such as progressive muscular atrophy, muscular dystrophy, syringomyelia, occur here as they occur in Australia. It seems to me one convincing proof of the essential unity (beneath skin pigment variations) of the human family. On the other hand, I have seen only one case of disseminated sclerosis, and that among the very small occidental group living in Korea. For some unexplained reason there is an extraordinary incidence of pernicious anæmia among westerners who have lived many years in the country. I have yet to see a case among Koreans or Japanese.

Common here, as in our country, are the exanthems (but vaccination has practically banished the erstwhile scourge of smallpox).

There is an occasional cholera scare, but that disease is now also under control. Beriberi, which formerly was unimportant, has come in with the polished machine-milled rice. Tuberculosis is the greatest single menace to life and health. Dysentery, distoma, hookworm, clonorchis, scabies, pellagroid conditions are among the diseases less seen in Australia but common here. Also prevalent here are gastro-intestinal diseases, syphilis, gonorrhœa (but rarely urethral stricture), carcinoma, the neuroses and the psychoses. Osteomyelitis is common; I suppose some vitamin deficiency has lowered resistance. Rarer than in Australia are rheumatic fever, rheumatoid arthritis, gout, well-marked arteriosclerosis, varicose veins (especially varicose ulcers). In the earlier years of my service, spent in a country district, I saw neither tabes nor general paralysis of the insane. Later and in the town I have seen both. Similar experience reported from China, where evidence was not complicated by the new factor, also of possible effect due to the introduction of arsenical remedies (there evidence was available thirty years ago), suggests that the spirochæte indigenous to the Orient is different from that brought into port cities.

I had always known that a specialist should be grounded in general medicine. Recent experience is teaching me what an advantage the principles learned in a specialty give as a background for general and administrative work. There are general principles of health. Beyond barriers of race and differences of nationality they call for recognition. This is one of the great lessons I have learned from my years of practice in a foreign land. Individual lives must be ordered according to these laws; society and its customs, the economic structure and its functioning, the ambitions of nations and the pride of rulers, all must learn to subordinate themselves to the inexorable requirements of these principles. Insubordination spells disease, disaster, death. The reward of compliance, whether in East or West, the winning of a golden age of personal, national and racial health.

Reports of Cases.

COMPLETE TRANSPOSITION OF THE VISCERA.

By ERIC M. FISHER, M.B., Ch.M., F.R.A.C.S.,
Sydney.

ABNORMALITIES of rotation of the intestine lead to wide variation in the final position which it takes up; in addition to position, abnormalities of fixation lead to wide variation in the mobility of the intestine. Therefore, when these abnormalities are found unexpectedly at operation, difficulty and confusion are caused unless the possibility of their presence is borne in mind.

Another, though less common, condition, which is occasionally the cause of great confusion, is complete transposition of the viscera. This leads to a complete mirror picture of the whole of the thoracic and abdominal viscera so that left-sided organs become right-sided and *vice versa*. If the condition has not been recognized before operation by the discovery of a right-sided heart or by a barium meal or enema, it may be difficult to unravel the puzzling findings. The following two cases, discovered first at operation, one in the upper and one in the lower portion of the abdomen, provide good illustrations.

Case I.

The patient, a male, aged sixty-four years, was suffering from obstructive jaundice caused by stone in the common bile duct. He had complained of severe central abdominal pain radiating to the back six weeks earlier. This was accompanied by vomiting, and after a few days settled down to a dull, aching pain in the centre of the abdomen. Four weeks later he became jaundiced and complained of itchiness of the skin, clay-coloured stools and anorexia. These symptoms began to clear up. There had been no previous attacks.

On examination jaundice was present; there was slight epigastric tenderness, but no mass was palpable.

Three weeks after his admission to hospital, when the jaundice had almost disappeared, the abdomen was opened by an incision through the right rectus muscle. At first nothing was recognizable; the right lobe of the liver was absent from its usual position; what seemed to be the duodenum was wide, thick-walled and very mobile, and was in fact the stomach. Suddenly the exploring hand felt the heart beating strongly through the right half of the diaphragm, and further exploration served to make the condition plain. The stomach was right-sided, the main part of the liver was on the left, the spleen was under the right cupola of the diaphragm, the common bile duct was on the left, and a stone was easily felt in it. No gall-bladder or cystic duct could be found, and unless it was completely intrahepatic it was absent. The stone was removed from the common bile duct, which was drained. Healing was complete and the patient was discharged from hospital in three weeks.

In this case the clue to the condition was found in the right-sided heart, felt from below. It was easy to deal with a left-sided bile duct from the right of the patient, and this suggests that a left-handed surgeon might find operation on the gall-bladder or bile ducts easier from the left side than from the right.

Case II.

A female patient, aged fourteen years, was suffering from subacute appendicitis. She had had sharp pains of short duration across the lower portion of the abdomen for three months. The pain recurred every few days, and sometimes several times in the day, and was of sufficient severity to keep the child home from school. Enlarged glands were palpable in both groins and in the neck, and tenderness was elicited on pressure across the lower portion of the abdomen. The child was considered to have ileo-caecal adenitis with involvement of the appendix.

At operation through a right iliac gridiron incision the caecum could not be found; but a long loop of colon, resembling the sigmoid and about ten inches long, could be delivered through the wound. The passage of a finger downwards showed that the mesocolon was attached across the right iliac fossa. This suggested transposition of the viscera, and the apex beat was felt in the right side of the chest. A mid-line incision showed that the caecum was left-sided and that there were several enlarged glands in the ileo-caecal angle.

Two other abnormalities were found: the ileo-caecal junction was on the left, that is, the lateral side of the caecum, and the appendix, which was thick-walled, white and œdematous, came off from the termination of the caecum and ran upwards and to the left towards the left kidney. It was removed and the abdomen was closed. Convalescence was uninterrupted.

In this case the recognition of the right-sided attachment of the sigmoid colon gave the key to the relations of the parts. It is difficult to see that any other indication of transposition which could be discovered through a gridiron incision, other than a right-sided sigmoid loop and an absent caecum, would suggest the explanation.

HYDATID CYST OF THE KIDNEY.

By ERIC M. FISHER, M.B., Ch.M., F.R.A.C.S.,
Honorary Surgeon, Royal Prince Alfred Hospital, Sydney.

A.M.G., a female, aged eleven years, was seen on July 24, 1939, complaining of frequency of micturition and hæmaturia, which had been present at intervals for two years;

FIGURE I.
Posterior surface of the right kidney.

she had had a mass in the right side of the abdomen for two years, with occasional dull pain in the back, and had lost eleven pounds in weight in the previous three months. Two years previously she was believed to have pyelitis and had been treated for this in hospital. The family history was clear and she had lived all her life at Molong, New South Wales. About six weeks previously she had been operated on for hydatid disease of the liver, which was found to be not involved; there was, however, a large retroperitoneal cystic mass, which was not opened. She was referred to Sydney for operation.

On examination the child was rather thin and pale, but otherwise her general health was good. There was a very large mass in the right hypochondrium and right flank, extending across the mid-line in the epigastrium and below to the anterior superior iliac spine. The surface and outline were irregular, it had many rounded bosses and it felt cystic and semi-solid. It was only slightly movable and was not tender on pressure. No other mass was palpable in the abdomen. Physical examination revealed no other abnormality. The urine was clear and no hydatid elements were found with the microscope.

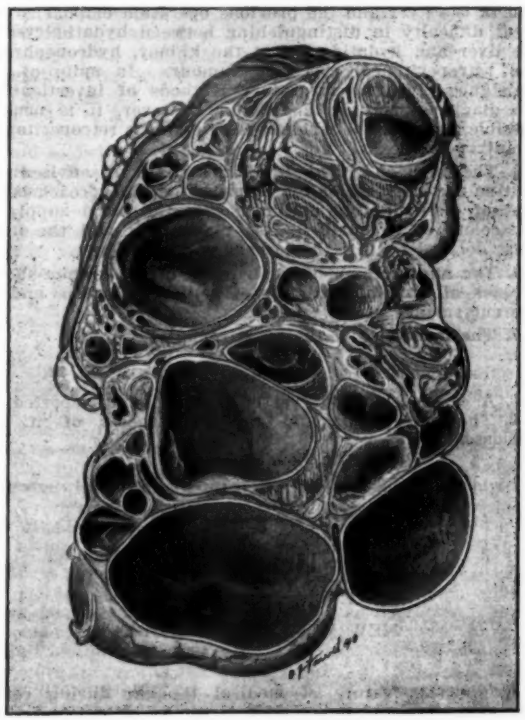

FIGURE II.
Cut surface of the right kidney.

An excretion pyelogram revealed a normal left kidney; the right kidney outline could not be distinguished, and the calyces could not be visualized. The Casoni intradermal test elicited a positive reaction and there was an eosinophilia of 11·5%. The diagnosis was hydatid cyst of the right kidney.

The great size of the mass suggested that removal through a lumbar incision would be difficult, so the abdomen was opened through the right *linea semilunaris* and an excellent exposure was obtained. The peritoneum to the right of the colon and duodenum was incised and the intestines were pushed over to the left; the mass was gradually freed with the hand, only a few vessels requiring ligature. The pedicle and ureter were thus gradually cleared, tied and divided, and the mass was removed. The abdomen was closed and a drain was left in the cavity through a stab wound in the loin.

Convalescence was smooth and the patient was discharged with the wound healed on August 17, 1939. She was well and gaining in weight on December 29, 1939.

Comment.

The following points are noteworthy.

1. The age of the patient. It is exceptional to find a hydatid cyst in children giving rise to symptoms. In all cases in adults the cyst has probably been present since early childhood, but the practically invariable adult complication of leakage into the pelvis with infection and the onset of symptoms seems to be unusual in childhood.

2. The early diagnosis of pyelitis. The early diagnosis of pyelitis probably was due to leakage and infection, and even then repeated examination of the urine might have shown the presence of hydatid elements.

3. The unsuccessful search for hydatid elements in the urine. This unsuccessful search does not mean their complete absence. It is almost certain that repeated examinations would ultimately have revealed them.

4. The differential diagnosis. The diagnosis of hydatid cyst of the liver and the previous operation emphasize the great difficulty in distinguishing between hydatid cyst of the liver and hydatid cyst of the kidney, hydronephrosis and retroperitoneal cyst and tumour. In spite of the assistance given by laboratory methods of investigation, the diagnosis may be doubtful. However, it is usually possible to determine whether the tumour is retroperitoneal or intraperitoneal.

5. The incision. The lumbar incision is advised for routine use, the risk of the transperitoneal approach being that of dissemination and injury to the blood supply of the colon. The small size of the patient and the large mass decided against the lumbar approach.

6. The almost complete destruction of the kidney shown by lack of function with the excretion pyelogram and by the cut surface of the specimens.

7. The large size of the mass removed.

Summary.

1. A case of hydatid cyst of the kidney is reported.
2. The interesting and unusual aspects of it are discussed.

Acknowledgement.

I wish to thank Mr. D. Farrell for his beautiful drawings.

Reviews.

NEW VIEWS ON BIOLOGY.

A NOTABLE feature of medical thought during recent years has been a revival of interest in biological science and its importance in modern concepts of the ætiology and prevention of disease. Dr. David Forsyth's "How Life Began" should therefore be welcomed by medical readers as an attempt to look beyond first principles towards a fuller and more elaborate conception of life.[1] Though the book follows the usual lines in discussing in turn heredity, environment, origins *et cetera*, its conclusions are entirely new and well sustain the author's reputation for advanced and original thinking.

In his opening chapters Dr. Forsyth considers biology in general and man's relation to his environment in particular. He rejects much of the current teaching on the subject of environment and seeks physiological evidence of the essential unity of an organism and its surroundings. Man and the medium in which he lives form a spatial and structural whole, and ideas of separation or isolation, in his opinion, cannot be sustained. This view will be accepted by very few students of the subject. On the controversial question of origins the author has little difficulty in accepting the theory of the spontaneous generation of life. Indeed, he believes that, given the optimum physico-chemical conditions, such generation is not only possible but inevitable. Evolution is considered as an elaboration of already existing processes; a one-celled organism contains latent within itself all the potentialities which come to expression in the higher animals and plants.

What is the force behind the constant striving towards specialized structure and function inherent in all living things? Dr. Forsyth finds an explanation of this process in what he terms the principle of the economy of effort, and the arguments he adduces in support of his postulate are ingenious, though not always impressive. Other sections of the work deal with natural selection and the survival and variation of species, and a glossary and index are included.

This is a thoughtful little book, which should be stimulating to the student; its usefulness to those whose interest in biological questions is merely casual or superficial is doubtful.

LICE.

IN "The Louse" P. A. Buxton successfully links up the anatomy, physiology and biology of the parasite with the practical problems which arise from louse infestation.[1] The technical details are given simply but quite fully enough to satisfy all the needs of ordinary workers on lice and louse-borne diseases, while those who require specially detailed information are provided with a list of one hundred and eight references, which are specifically mentioned in the text in connexion with the particular points to which they refer.

The chapters on the individual and collective biology of lice lead up to those on the entomology of typhus, trench fever and relapsing fever, and make these very easy to understand. It is shown how efficient control of lice is the basis for the prevention of louse-borne diseases, and a summary of methods of louse control is given, together with practical details and methods of rearing and handling laboratory lice.

The book is excellently produced; there are only two typographical errors; the style is clear and concise; and the illustrations are adequate. It should prove to be of great practical value to both beginners and experienced workers.

SURGICAL TREATMENT.

"ILLUSTRATIONS OF SURGICAL TREATMENT", by Eric L. Farquharson, is rather more than its title suggests.[2] There is considerable information in the three hundred pages of text. The first part describes methods of giving extravenous infusion and blood transfusion, typing of blood *et cetera*. Part V is devoted to illustrations and description of instruments and appliances. The remaining main body of the book deals with orthopædic matters, fractures and allied conditions. To quote from the foreword by Sir John Fraser: "While the book has the merit of

[1] "How Life Began: A Speculative Study in Modern Biology", by D. Forsyth, M.D., D.Sc., F.R.C.P.; 1939. London: W. Heinemann (Medical Books) Limited. Crown 8vo, pp. 117. Price: 5s. net.

[1] "The Louse: An Account of the Lice which Infest Man, their Medical Importance and Control", by P. A. Buxton, M.A., M.R.C.S., L.R.C.P., D.T.M. and H.; 1939. London: Edward Arnold and Company. Demy 8vo, pp. 124, with illustrations. Price: 7s. 6d. net.

[2] "Illustrations of Surgical Treatment, Instruments and Appliances", by E. L. Farquharson, M.D., F.R.C.S.E., with a foreword by Sir John Fraser, M.C., M.D., Ch.M., F.R.C.S.E.; 1939. Edinburgh: E. and S. Livingstone. Medium 8vo, pp. 349, with illustrations. Price: 20s. net.

individuality (for many of the methods described bear the stamp of Mr. Farquharson's inventive mind), it is in no way parochial or local in its information. Where there are different means of obtaining the same object, they are described, but the whole is presented on a critical and analytical basis, so that the reader is left in no doubt as to the merit of the choice."

Particularly striking is the author's attention to detail, so important in fracture work, and his native ingenuity is well brought out in his methods of suspending plaster casts *et cetera*.

The illustrations are profuse and magnificent, being mostly photographs showing the various steps in manœuvres, finished casts *et cetera*, and line drawings demonstrating the nature of displacements in fractures.

The section on fractures of the shaft of the femur is particularly good, the author stating the various methods of treatment and modestly describing his own method of suspended plaster cast last.

Altogether it may be stated that this book will prove a valuable addition to the library of the surgeon, of the practitioner who has to deal with fractures, and of the student; it is well worthy of the school from which it emanates.

FISHBERG'S HYPERTENSION AND NEPHRITIS.

THERE are certain medical text-books which from their first appearance achieve a commanding place and continue to appear in edition after edition. Sometimes they even survive their authors, and successive editors seek to sink their own identity in the work of an honoured pioneer. Such books, too, sooner or later, cease to be known by any other title than that of their original author, who is scarcely conceived to have had any other activity than the production of the book. To this class belong "Osler", "Cunningham", "Gray", "Hutchison and Rainy", "Rose and Carless", and a few more. Dr. Fishberg's work shows signs of achieving a seat among these immortals.[1]

First published in 1929, it has just reached a fourth edition; it is most instructive to compare the two. In many ways there is little change—the original plan and the original classification have altered very little; nephrosis is retained, and the author still adheres to the classification and ætiology of Volhard and Fahr.

There are, of course, two chapters to which every physician will turn first to see what advances have been made in the past few years—those on the ætiology and treatment of hypertension.

In the first, it must be confessed, the reader is likely to be doomed to disappointment. Like Omar, after "hearing great argument about it and about", he is likely to feel that he goes out "by the same door wherein he went". But this is not quite true. The work of Goldblatt and his colleagues on the effect of renal ischæmia provides a very real advance in one line, even if it is often inapplicable to particular cases. The work of Nye in connexion with juvenile arteriosclerosis and plumbism has been accepted. Above all there is the "humoral factor", based on the proved occurrence of "renin" in the circulation. Otherwise most of the discussion is directed to discrediting the various theories—nervous, metabolic and infective—which have been put forward at various times, to explain the cause of essential hypertension.

The factor of pyelonephritis is well recognized, though not held to be so important as some recent work suggests, while a family tendency is shown to be a very important factor—a view to be supported by the experience of every observant clinician. The author touches, too, on the endocrine theory with more than a little approval; but his most interesting account is of the "environment" experiment carried out involuntarily on Negroes. The Negro living in primitive conditions in Africa never suffers from high blood pressure; his cousin, living in Harlem or other Negro cities of the United States of America, is frequently a victim. And the causative factor is not syphilis, of which Fishberg has no high opinion as a factor. "I do not believe it probable that syphilis is among the causes of essential hypertension." Alcohol, too, he considers, plays a very unimportant part, and he quotes the Eskimos and Amundsen to prove the harmlessness of a high protein dietary. Naturally, with so little known of ætiology, he can say little of rational therapy. We cannot choose our parents, so the hereditary factor can be considered only after the damage is done.

Lead arteriosclerosis is disappearing with the improved condition of workers, the removal of some uncertain factors in Queensland and a stricter control of lead face powder in Japan. But on the whole the toll of death from hypertension is rising in civilized centres, and as a recent "Statistical Bulletin" points out in discussing the Canadian health record for 1939, heart disease, diseases of the coronary arteries and chronic nephritis all show an increase on the figures for 1938 and very appreciable rises on those of ten years ago.

The chapter on treatment will, therefore, prove a little disappointing; but if there is little advance on the medical side, the surgeons have been busy, and Dr. Fishberg devotes some of his most interesting pages to a discussion of their results. He speaks both from a written and a first-hand knowledge of the work, for many of his patients have been treated either by the surgeons of the Mayo Clinic, with Adson at their head, or by Peet at Ann Arbor.

The conclusion at which he arrives is in short that there is as yet no standard case in which benefit is certain to be obtained from operative treatment. Some patients suffering from advanced disease have benefited very greatly, while others, whose condition is not nearly so advanced, have had their downward course in no way checked.

Next, that there is no question of the treatment being curative; it is only palliative; but palliative treatment may be well worth the comparatively small risk. The author quotes, too, the claims of Crile, but adds that he has never seen a patient treated by cœliac ganglionectomy. He sums up the situation after giving in considerable detail a description of his own patients, whom he had had treated by operation, in different clinics, by surgeons who had attained distinction in the operative treatment of hypertension. He writes on page 733.

> In interpreting these results it should be borne in mind that only patients with severe hypertension and very poor prognosis were submitted to operation. In no case was there anything resembling a "cure" as a result of the operation. But in at least one-half of the patients there was marked symptomatic relief for at least several months. Especially striking was the amelioration of previously incessant headache in some of the patients. Exceptional but impressive, and affording objective evidence of the beneficial effect of the operation, was the clearing up of papilledema and retinal changes; this is of such great rarity in essential hypertension apart from the operated cases that it must be attributed to the operation. I was struck by the fact that several patients who previously had incessant headache were free from this after operation despite progress to a fatal termination.
>
> Since the operative treatment does not produce a "cure" (at least not in my experience), opinion as to its value must be based on comparison of the clinical course of the patient with what one believes would have occurred if operation had not been carried out. By this criterion the operation seemed "worth while" in only about one-quarter of the above cases and others with which I have been acquainted. These results scarcely suffice to evoke enthusiasm. Nevertheless, considering the severity of the cases, the fact that even temporary fall in blood pressure and symptomatic improvement, and especially clearing up

[1] "Hypertension and Nephritis", by A. M. Fishberg, M.D.; Fourth Edition, revised; 1939. London: Baillière, Tindall and Cox. Medium 8vo, pp. 779, with 41 illustrations. Price: 37s. 6d. net.

of hypertensive neuroretinopathy, occurred in some instances, affords hope that better results of longer duration may be obtained from future modifications of the operation on the sympathetic nervous system. Perhaps I would have seen better results if I had submitted other than very severe, and in my opinion otherwise hopeless, cases to operation.

But the whole field of the book is so extensive and so uniformly well done that it is hard to pick out special parts for consideration.

The chapter on renal efficiency tests is another that has been thoroughly reviewed. Many of the older tests, for example, Ambard's coefficient and the phenol red tests, are mentioned as being of little more than historical interest. The urea concentration test of McLean (constantly spelt McClean) is still held to be of value, if carried out correctly; but the renal flexibility test of Volhard, as modified by the author, is, he considers, the best simple test in use. (In the preface he stresses the fact that it is the family physician on whom the care of these patients mostly falls—for him laboratory facilities are often lacking.) The urea clearance test of Van Slyke, which he received with some hesitation on its introduction, is now, after prolonged experience, declared the best and most sensitive of all renal efficiency tests.

There is a new chapter on azotæmia—as easy clinical reading as a lecture by Trousseau or Robert Hutchison—packed with clinical detail and everywhere affording so much food for thought that it might serve as a review subject by itself.

The list of new or rewritten chapters in the preface begins with prerenal azotæmia and fills a block of solid printing half a page in length. In fact the book is still the final court of appeal on the subjects with which it deals.

DENTAL SURGERY.

A FOURTH edition of "Operative Dental Surgery" has been produced under the joint authorship of J. B. Parfitt and W. E. Herbert, both teachers of dental surgery at Guy's Hospital Dental School, London.[1]

This edition further adds to the value of a text-book that has been favourably known since 1921, when the first edition appeared. Recent advances in the principles and technique of dental surgery rendered necessary the publishing of a new edition, and the text has been revised, partially rewritten and added to; this has made available to both students and practitioners a one-volume summary of all that is latest and best in dental theory and practice; it also presents in concise form methods that have stood the test of time.

A glance at the contents index shows that a wide range is covered, and the reader is impressed on dipping further into the volume with the fact that the conciseness of the work has not been attained at the cost of drastic pruning, but rather by the use of good English without extravagance or redundancy of expression. The contents cover such important subjects as infection and cleanliness, control of saliva, conservative treatment of parodontal disease; ionic medication; dental caries; elimination of pain; dental cements and other materials; treatment of pulpless teeth; extractions *et cetera*.

We are filled with admiration for the excellent way in which so much valuable information is presented in a comparatively small space, yet apparently without the omission of anything that is vital. The chapter on sterilization is particularly valuable, and indicates how the chain of asepsis can be preserved practically unbroken even under such difficult conditions as exist in the average dental surgery.

The section devoted to the subject of infected teeth is eminently sound, and the vexed question of pulpless teeth is looked at from every angle. Amongst other conclusions the authors present the following statement: "If any doubt arises, the sound principle is to give the health the benefit of the doubt, and not the teeth", and to this little exception can be taken.

Taken by and large, this volume can be heartily commended both as a text-book for students and as a refresher and reference book for practitioners. The type is clear, the paper good, and the illustrations are generally on a high level of excellence.

[1] "Operative Dental Surgery", by J. B. Parfitt, L.R.C.P., M.R.C.S., L.D.S., and W. E. Herbert, L.R.C.P., M.R.C.S., L.D.S.; Fourth Edition; 1939. London: Edward Arnold and Company. Demy 8vo, pp. 484, with illustrations. Price: 25s. net.

GYNÆCOLOGY AND THE ENDOCRINES.

PROFESSOR COLLIP, of Montreal, in his foreword to "Endocrine Gynecology", by Associate Professor E. C. Hamblen, of Duke University, North Carolina, expresses the opinion that its publication is timely, for though the chemistry, physiology and pharmacology of sex hormones have received very considerable attention, the clinical aspects have not been given their full due.[1] He praises the author's conservatism, his impartiality and his refreshing treatment of clinical cases. The interested reader of this book will agree completely with Professor Collip, for it is an admirable work and deals with a complex subject in a masterly way. Amongst the difficulties encountered is the absence of normal values for so many sex functions; for example, the time of first menstruation and of menopause, the subjective symptoms of adolescence, menstruation, pregnancy and climacteric, the duration of pregnancy, labour and lactation, the degree of sexual responsiveness and of sterility are all subject to such wide variations that the boundary between physiology and pathology is hard to define. The author gives us the excellent aphorism: "Functional aberrations should not be considered abnormalities unless they interfere with physical well-being or with sexual or procreative functions."

So many American writers desirous of showing their scholarship and really demonstrating their fine library organization give conflicting opinions and conclusions of various investigators and observers with equal emphasis and without editorial criticism. This book is free from this fault, and the author's judgement is often brought forward in a convincing manner, especially when it is based on what must be a wide clinical experience.

The book covers the extensive field of the role of the endocrine glands in the reproductive functions of the female, from every standpoint, including clinical examination, diagnosis and treatment. The author is apparently not much interested in the constitutional formulæ of the several hormones and wisely refrains from airing second-hand knowledge. Male conditions are referred to only when they are necessary, as in sterility, dyspareunia and the like. The style is perhaps too staccato; but this can be pardoned in view of the clearness of exposition. The following paragraph is typical: "Between the 11th and 14th years unmistakable evidences of adolescence appear. The weight increases. The face becomes rounder and more delicate in outline. The voice loses its childhood character, becomes deeper and more melodious. The dimensions of the thorax and shoulders increase. The breasts grow."

A good working bibliography will be found at the end of each chapter, and there is an authors' as well as a subject index. There are a large number of illustrations, mostly original, and, though a few are crude, they are useful. The paper unfortunately is of that heavy quality with a mortuary odour which we associate with too many American volumes. The book would be better without the hideous frontispiece, for pathology interpreted by the artist is neither pleasing nor inspiring.

[1] "Endocrine Gynecology", by E. C. Hamblen, B.S., M.D., F.A.C.S., with a foreword by J. D. Collip, M.D.; 1939. Baltimore: C. C. Thomas. Royal 8vo, pp. 481, with illustrations. Price: $5.50 net.

The Medical Journal of Australia

SATURDAY, MAY 4, 1940.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

PROSTITUTES AND PROSTITUTION.

THE League of Nations Committee for the Suppression of Traffic in Women and Children proved a few years ago as a result of its investigations that there was a connexion between licensed houses of prostitution and the traffic in women. Once this fact was established and the desirability of abolishing licensed brothels became generally accepted, it was obvious that constructive measures would have to accompany the abolition—that something would have to be done for the rehabilitation of prostitutes who occupied these houses. An inquiry into direct methods of rehabilitation was begun in a small way and soon became extensive; in 1935 a *questionnaire* was sent to fifteen governments and six voluntary associations. It consisted of three parts; the first dealt with direct methods of rehabilitation, the second with the extent to which social assistance is combined with treatment for venereal disease, and the third with the antecedents of prostitutes. The replies have been analysed and the results of analysis have been published in book form. The first book deals with prostitutes and their early lives and the second with social service and venereal disease; these two were issued in 1938. Comment on these two books was deliberately withheld from these pages until such time as the third, on methods of rehabilitation, appeared; this last volume has recently been received.

Prostitution is one of the world's oldest social problems. It is and always has been so widespread that there is some justification for the view that its eradication is impossible. The late Havelock Ellis declared that it was so deeply rooted that it could be affected only by influences which bear on all our methods of thought and on our social custom. But thought and custom can be influenced so that even if prostitution cannot be eradicated, many of its worst features can be eliminated and some of its more serious effects lessened. The League of Nations committee had as its objective the rehabilitation of prostitutes, and obviously before this could be attempted it was necessary to know something of the early lives of the women and of the reasons which compelled or induced them to adopt prostitution as a means of livelihood. The first volume, already mentioned, thus becomes a study of the causes of prostitution.[1] The study is fairly complete, for it is based on reports from twenty countries dealing with the lives of over 2,500 woman; and, in addition to revealing the causes of prostitution, it gives a picture of general tendencies and of national differences and similarities. With the second of these aspects we are not concerned on this occasion.

Perhaps it will be as well if, in attempting a summary of this report, we begin at the general conclusion that the causes which lead women into prostitution include mental and physical weaknesses, traits of character, unhappy and broken homes, wrong upbringing, neglect in childhood and adolescence, unsuitable working conditions, low wages, monotonous and uninteresting work, unemployment, sudden financial need, the burden of providing for children and dependants, and the influence of prostitutes and procurers. There are two views as to the general cause: one, that the cause is economic, and the other that temperament

[1] "League of Nations Publications. Advisory Committee on Social Questions Enquiry into Measures of Rehabilitation of prostitutes. Part I: Prostitutes: Their Early Lives"; 1938. Geneva: League of Nations Publications Department; Australia: H. A. Goddard. Demy 8vo, pp. 140. Price: 3s. net.

or mental maldevelopment is chiefly responsible. We are reminded in this report that it is difficult to separate causes in the character of the individual from causes in her circumstances and surroundings. Character and environment react on one another, and no one set of factors offers a suitable explanation. From the life histories that have been collected most of the women appear to have become prostitutes from the cumulative effect of a series of causes in temperament, upbringing and events. At the same time the most powerful predisposing cause lies in the mentality of the individual—a third of the women that were the subject of this inquiry were considered to be mentally abnormal or subnormal, and this without any special examination by expert psychologists. The great majority of women who were in employment had no vocational training and were engaged in unskilled work. Laziness and love of luxury were often found together. Contrary to what might have been expected, only a few women came from poor homes; the majority had working class parents. Almost half of the women had started their working careers in some kind of domestic service. The possible reasons given for this are of interest—first of all, labour shortage makes domestic service a refuge for the less gifted and the less persevering, a domestic servant's life is lonely, she has the constant spectacle of people who are living more comfortably or more luxuriously than herself and she is often overworked and sometimes has bad living conditions. Strangely enough low wages are not included in this list, and they should be. Poverty was most often mentioned by the women themselves as the immediate incentive to prostitution. Many other factors are discussed, for example, the influence of *souteneurs* and the effect of monotony and boredom. What is important from the practical point of view is that many of the factors are preventible; but more important still, all the factors discussed are only secondary causes. This is what society in its smug satisfaction always forgets. These secondary factors are brought into play only because a demand for prostitution exists. This is the note on which the report ends and it is elaborated by the trenchant statement: "The primary causes must always be the demand for prostitutes—however created—and the public toleration of prostitution, both dependent on current philosophy and morality, habit, tradition, education and the structure of society." Society cannot by legal enactment confer morals on the amoral or turn an empty-headed person into a philosopher, but it can refuse to tolerate conditions that lead to vice and it can make difficult the way of the would-be licentious; it can prevent all the preventible factors in the previously quoted list; it can also call down the most severe punishment on the despicable creatures who try to enslave women for their own enrichment. When it is doing or is prepared to do these things, but not till then, it has a right to consider the rehabilitation of prostitutes. This is a subject for a future discussion.

Current Comment.

NERVE AND GUT.

DURING the past ten years our confidently held ideas of the nature of some common alimentary disorders have undergone the most radical reorientation as our eyes have been suddenly opened in unexpected directions. Particularly has this happened as unsuspected relationships have been demonstrated between the functions of the nervous system and the gut. An early and dramatic instance of this concerned *diabetes mellitus*, which for many years was thought to be entirely due to some deficiency of the pancreatic islands, although the sugar diabetes following certain injuries to the brain was unexplained. Unexpectedly in 1931 B. A. Houssay showed that the development of diabetes after extirpation of the pancreas is dependent on the integrity of the anterior hypophysis.

Another instance has concerned peptic ulcer. The similarity between some of the symptoms produced by peptic ulcer and the "nervous dyspepsia" occurring in the absence of ulceration as the result of worry and depression in those predisposed to it had been well known for many years and the two conditions had been distinguished. Altered irritability, motility and secretion of the stomach and intestines were known to result from nervous stresses since the days of Alexis St. Martin, while peptic ulceration had been variously attributed to irritating foods, vascular occlusion, focal sepsis, excessive acidity as from nicotinism and the like. It aroused great interest in 1932, when J. Beattie showed that continued stimulation of the hypothalamus could

produce erosion of the gastric mucosa and demonstrable hæmorrhage. Various clinical evidence was brought forward to support these experimental observations, and in 1937 D. T. Davies and A. T. M. Wilson published observations on nervous influences which appeared to operate in precipitating the symptoms of peptic ulcer and in determining recurrences. They found that disturbing situations and events causing anxiety had preceded the onset or return of symptoms in 84% of 205 patients with peptic ulcer and in 81% of radiographically proved recurrences. A number of patients suffering from hernia were examined similarly as a control experiment, and it was found that external events of a potentially disturbing nature had preceded the onset of symptoms in only 22% of the patients. It was found that unusual psychological tension, as shown by inability to rest, was a lifelong characteristic of 78% of the ulcer patients, but of only 15% of those suffering from hernia. Davies and Wilson have recently extended their observations to patients suffering from hæmatemesis and perforated peptic ulcer, events which connote activity in an ulcer and signify that erosion has been gaining on repair.[1] They found that events capable of producing unusual emotional tension had preceded the catastrophe in 63 out of 75 patients, or 84%. These events preceded the hæmorrhage or perforation by a few days, and usually related to increase of responsibility, financial difficulty and illness or trouble in the family. Davies and Wilson, in discussing their findings, point out that a remarkable symptomatic improvement is the rule after a catastrophe, provided death does not occur, while radiography after a few weeks fails to demonstrate the ulcer crater. They offer an ingenious psychological explanation of this apparently rapid healing. "When there is acute uncertainty", they write, "whether they [the patients] can get through a situation or not, to give in and admit defeat is incompatible with their make-up. But when blood is vomited there is a sudden change in affairs and an immediate alteration in their attitude to their difficulties. Their threatened failures are expiated. Wounded in the battle of life, there is an armistice and with it the possibility of a new orientation. It may be that . . . this new outlook does play some part in the good results which follow." Davies and Wilson make the practical suggestion that patients who suffer from peptic ulcer should frequently buffer their gastric acid during periods of unavoidable stress and anxiety.

Pernicious anæmia and sprue are two alimentary disorders concerning which novel ideas have most recently been forthcoming. It has been known for some years that these diseases are benefited by the administration of desiccated pig's stomach and duodenum, and it has been said that only those parts containing the pyloric and duodenal glands are therapeutically effective. It caused much perplexity and upset ideas rapidly becoming fixed when in 1938 H. A. Magnus and C. C. Ungley found that the pyloric and duodenal glands are normal in pernicious anæmia, even though the rest of the lining of the stomach shows considerable atrophy. A flood of light has recently been thrown on the subject by W. Jacobson,[1] who, following up the remarkable announcement of G. Erös and S. Kunos in 1936 that the argentaffin cells of the alimentary canal were almost absent in pernicious anæmia, has shown that there is a striking parallelism in the distribution of the argentaffin cells of man and the pig and the localization of the principle active against pernicious anæmia in the mucosa of the gastro-intestinal tract. These argentaffin cells are certain sparsely distributed, specially differentiated chromaffin cells, occurring in clusters among the cells of the gastro-intestinal epithelium. They were discovered in the rabbit and in the dog by R. Heidenhain in 1870 and have since been found to occur regularly in mammals, birds, reptiles and amphibia. It is from these cells that carcinoid tumours of the alimentary canal arise. Their resemblance to the cells of the paraganglia, suprarenal medulla and carotid bodies, cells whose development is intimately associated with that of the sympathetic nervous system, has long been noted. Jacobson has found that in material obtained from fourteen persons who had suffered from pernicious anæmia or sprue argentaffin cells were almost completely absent, whereas they were present in normal numbers in the intestines of persons suffering from other forms of anæmia. A host of questions present themselves. Have these cells an internal secretion? Can it be extracted from carcinoid tumours and its chemical nature determined? What part does it play in hæmatopoiesis and in cytopoiesis generally? What now is the true nature of subacute combined degeneration of the spinal cord—is it only a part of a disseminated nervous disease or is it due to the lack of an internal secretion? Time will surely tell.

It has been clearly demonstrated in the last few years that the functional linkage between the nervous system and the gut is much closer than we had ever envisaged. In fact it is difficult not to feel that we are witnessing a revolution in alimentary physiology and pathology.

[1] *The Lancet*, September 30, 1939.

[1] *The Journal of Pathology and Bacteriology*, July, 1939.

"SOBISMINOL MASS": A NEW, ORALLY ADMINISTERED REMEDY FOR SYPHILIS.

BECAUSE syphilis is a dangerous and communicable disease its treatment is compulsory under the law; yet it does not yield to treatment easily and the spirochæte left for dead will often turn like the bruised snake in the grass and sting mortally. It follows that only one standard of treatment is permissible, and that the most rigid that can be

devised. Ever since the mercurial era it has been realized that tablets, ointments and liquid medicine, wherewith the patient is at the mercy of his own fallibility, are a less exact and to that extent less desirable method of treatment than courses of injections, which bring the patient frequently under the direct control of the physician. Nevertheless, the announcement of a new bismuth preparation for oral administration in syphilis is undoubtedly an event of great importance. The announcement is made in a recent report of the Council on Pharmacy and Chemistry of the American Medical Association,[1] which for three years has been awaiting the accumulation of sufficient evidence to evaluate the efficacy of the product. The Council now reviews the history of its development, its experimental phases and its clinical trials, and admits it to the list of "new and non-official remedies" under the non-proprietary name of "sobisminol mass".

In 1933 Professor P. J. Hanzlik, of the Stanford University of California, undertook to develop a soluble bismuth preparation intended for oral as well as for intramuscular administration. In 1936 it had been prepared from the interaction at 80° C. of 0·2 gramme of sodium bismuthate, 0·4 gramme of triisopropanolamine and 0·1 gramme each of propylene glycol and ethyl alcohol or larger amounts in similar ratio; and during the three years that have since elapsed, it has been the subject of a great mass of animal experiment and clinical study by Hanzlik and co-workers in respect of its physical, chemical, pharmacological, toxicological and therapeutic properties.

Sobisminol mass is a chocolate-coloured pasty semisolid with a slightly unpleasant odour, a bitter taste and a sweetish metallic after-taste. It is dispensed in capsules, each containing 0·75 gramme (representing 0·15 gramme of bismuth), and the optimum adult dose has been found to be six capsules daily. Absorption from the intestine appears to be rapid, and in human subjects under treatment with the mass the excretion of bismuth in the urine is as great as when soluble preparations of bismuth are injected intramuscularly, notwithstanding that a considerable proportion of the amount given escapes in the fæces. Experiments with animals have shown that the toxicity of the preparation compares favourably with that of other water-soluble drugs used in the treatment of syphilis. Ill effects during the administration of the mass to human subjects occurred in more than one subject out of every three, and were chiefly of the nature of gastro-intestinal disturbance during the early stages of the treatment; also severe heartburn was noted if the capsules had been taken with insufficient water, and rashes and stomatitis were seen very occasionally. The efficacy of sobisminol mass as an antisyphilitic has been assessed in two communications, one by W. M. Meininger and C. W. Barnett and the other by J. R. Scholtz, Katherine D. McEachern and C. Wood.[1] It would appear that the mass quickly causes the disappearance of spirochætes from the cutaneous lesions of early syphilis, and in most cases is able to clear up primary syphilitic lesions in about ten days, secondary lesions in about fourteen days, and tertiary lesions in about thirty days; it has a satisfactory action in reversing positive reactions to serological tests. However, when the preparation has been used alone, the tendency for relapse to occur is greater than after injections of insoluble preparations that form a depot from which absorption of bismuth continues and sustains the therapeutic effect. Finally, it is claimed that sobisminol mass gives relief from the symptoms of late neurosyphilis, especially from tabetic symptoms, and Scholtz and his collaborators state that for this purpose it appears to offer a definite advantage over any drug heretofore used.

In the United States of America all practicable steps are being taken to discourage the sale of sobisminol mass "over the counter" to the public. It is easy to see what a "dangerous drug" this preparation might be in this country if it were easily available for self-medication. Those misguided enough to take it might think, as soon as their cutaneous lesions had cleared up, that they had cured themselves; then early relapse would make them again a menace to the public health, while the loss of their prospects of real cure within a reasonable time would be a sad penalty.

[1] *The Journal of the American Medical Association*, December 16, 1939.

MACROCYTIC ANÆMIA OF PREGNANCY AND ANÆMIA OF THE NEW-BORN.

VERY little is known about the relationship between anæmia of the new-born and the state of the blood of the mother. In fact it is well known that an extremely anæmic mother may give birth to a normal child, and, conversely, that an apparently normal mother may give birth to a child which is or which rapidly becomes anæmic. It seems odd that the processes of blood manufacture in mother and child can be so independent one of the other. Evidently the differences between the "make up" of fœtal and of adult blood are fundamental. Ernest W. Page and Eric Ogden[2] describe a patient with macrocytic anæmia of pregnancy whose child suffered from severe anæmia of the new-born. This is quite unusual; the history is therefore of great interest.

This patient's first pregnancy, which occurred when she was eighteen years of age, was normal except that she had œdema of the ankles. Her second pregnancy, during which she suffered from "low reserve kidney and high blood pressure", resulted in the birth of a premature child, which died six months later. During her third pregnancy she suffered from severe macrocytic anæmia, which

[1] *The Journal of the American Medical Association*, December 16, 1939.

[2] *American Journal of Obstetrics and Gynecology*, August, 1939.

was treated by blood transfusion; this pregnancy ended in the delivery of a normal full-time infant. Three years later, the patient, six months pregnant, was admitted to hospital with severe macrocytic anæmia. The red blood cells numbered only 740,000 per cubic millimetre. Transfusion of citrated blood was performed on three successive days. Severe reactions occurred, but the patient's condition improved and she was delivered of a female child weighing four pounds fifteen and a half ounces, apparently in good condition. This child developed a severe anæmia; fifteen days after birth the red cells numbered 1,410,000 per cubic millimetre. It was given in all nine transfusions of citrated blood and eventually became a thriving infant. The mother's condition gradually improved after delivery.

The authors observe that this condition of macrocytic anæmia induced by pregnancy is rare. Only one case has been encountered in the maternity service of the Philadelphia General Hospital. They state that it is now generally believed to be due to a dietary deficiency. The response of their patient to liver therapy was inadequate. The work of Elsom and Sample is cited; these authors produced macrocytic anæmia by means of diets deficient in vitamin *B* complex and prompt relief was obtained by the administration of vitamin *B* complex and liver, with subsequent delivery of normal full-term infants. Wintrobe and his associates have raised the question as to the presence of an anti-anæmic principle in the fœtus and its possible relationship to anæmia in the infant. On reflection it is realized that there are many possibilities. Either the mother or the infant, or both, may be deficient in intrinsic factor. Deficiency of extrinsic factor in the diet may thus affect the blood picture of either the mother or the infant, or both.

A SECOND INTERNAL SECRETION OF THE PANCREAS.

TOTAL extirpation of an animal's pancreas results in glycosuria in a few hours and in death within two to three weeks. If, instead of removal of the entire gland, a portion is transplanted under the skin, the glycosuria and the fatal outcome are averted and the animal remains in good health. These facts have been well known for many years. Following the discovery of insulin in 1922 by Banting and Best, endeavours were made to keep animals alive after total pancreatectomy by the administration of insulin, but with only partial success, as the animals still succumbed, although the survival period was lengthened to two or three months. At autopsy the liver was found to be increased to three or four times its natural size, the parenchyma being replaced almost entirely by fat. An animal which has been deprived of its pancreas obviously suffers from deficiencies of two substances, insulin and pancreatic juice. Attempts were therefore made to supplement the insulin injections with fresh active pancreatic juice by mouth. This made little or no difference, but in a series of experiments the animals were, more or less fortuitously, fed with fresh pancreatic substance, and survival was found to be prolonged almost indefinitely, while liver changes did not occur. It was discovered that lecithin and choline were to some extent effective, and for a time it was believed that pancreatic substance owed its action to its content of lecithin and choline. L. R. Dragstedt, D. E. Clark and C. Vermeulen,[1] after performing experiments and accumulating evidence, express the opinion that the pancreas manufactures a second internal secretion apart from insulin. For this hormone they suggest the name "lipocaic"; and they base their conclusions regarding its existence on the following facts. Pancreatic juice is not essential to life, as with certain precautions an animal may survive indefinitely with a complete pancreatic fistula. Further, as shown above, feeding with pancreatic juice has little or no effect after total pancreatectomy. The beneficial effect of feeding pancreas is not due to its lecithin or choline content, as liver and brain, although richer in these substances, are ineffective. Finally, Dragstedt and his co-workers have succeeded in preparing an extract of pancreas which is free from lecithin and choline, and which is effective in doses of only 150 milligrammes per day. After being submitted to pancreatectomy, insulin-treated dogs in which liver changes had become marked, were treated by feeding with "lipocaic"; they made good recoveries, the liver fat became absorbed again and the normal liver structure returned. The subsequent withdrawal of lipocaic again produced the characteristic symptoms and changes, which could be relieved when administration was resumed.

The clinical application of these findings seems to lie most probably in the field of medicine. The authors emphasize the fact that many patients with *diabetes mellitus* have a lessened capacity to utilize fats. In some instances hepatic enlargement and fatty infiltration are present. It is said that several of these patients responded favourably to treatment with lipocaic. Another aspect which suggests itself is the possibility that the fatty changes which are seen in the liver after poisoning by drugs such as chloroform may be due to a direct action of the poison on the pancreas and to an indirect action on the liver through a depression of lipocaic secretion. There is room for further investigation.

Dragstedt and his co-workers refer briefly to the new technique for the operative removal of carcinoma of the head of the pancreas, and stress the importance of recognizing that while the absence from the intestine of pancreatic juice is relatively unimportant, the deficiency of the internal secretions, insulin and lipocaic, is incompatible with life.

[1] *Annals of Surgery*, November, 1939.

Abstracts from Current Medical Literature.

PÆDIATRICS.

Non-Specific Treatment of Pneumonia in Infants and Children.

FRANCIS C. McDONALD (*The New England Journal of Medicine*, November 9, 1939) draws attention to the fact that the non-specific treatment of pneumonia in children is of the greatest importance. He presents a series of cases in which the mortality rate from pneumonia was greatly reduced without the aid of specific drugs or serum. The author does not imply that these specific methods are not of value, as he now uses them in almost every case. The non-specific methods used were those that conserve the energy of the patient, those that provide ample nutrition, and those that seem to raise immunological resistance to the invading organism. The measures employed for the conservation of the patient's energy included increasing the oxygen of the inspired air, judicious use of sedatives and efficient nursing care. A liberal use of oxygen is advocated and details are given of the use of an oxygen tent. The author recommends the use of morphine sulphate as the most suitable sedative. Morphine used in conjunction with oxygen therapy usually changes a struggling, frightened child who is not taking enough nourishment to one who is well poised, partially relaxed and eager for food. Morphine is given according to the body weight: one-sixth of a grain for a 75-pound child, one-twelfth for a 30-pound child and one-twenty-fourth for a 15-pound infant, and so on. Save in exceptional circumstances no more than two consecutive doses at four-hour intervals were ordered without the patient being examined. Idiosyncrasies usually manifested by excitability occurred in about 2% of the patients. All sedatives are contraindicated if there is difficult breathing caused by tenacious secretion, peripharyngeal or retropharyngeal swellings, severe tracheo-bronchitis or rapid accumulation of air or fluid in the pleural cavity. Morphine generally masks the pain due to *otitis media* and consequently this complication should always be looked for and treated appropriately. The nutrition of an infant or child with pneumonia is of great importance in treatment.

Sugar Content of Cerebro-Spinal Fluid.

ESTHER HENDRY (*Archives of Disease in Childhood*, December, 1939) has investigated the cause of the reduction of the sugar content of the cerebro-spinal fluid in meningitis. From a preliminary review of the literature it is considered unlikely that lessened permeability of the chorioid plexus to the passage of sugar into the cerebro-spinal fluid is the cause of the reduction in its sugar content in meningitis. The evidence points to the reduction being due to the action either of bacteria or of white corpuscles. The author devised tests to determine in meningitis (*a*) whether there is alteration in the permeability of the blood-brain barrier to glucose, (*b*) whether the action of bacteria is the cause of the reduction of sugar in the cerebro-spinal fluid, or (*c*) whether the presence of leucocytes is responsible for the reduction. As a result of investigations the author has arrived at the following conclusions. The permeability of the chorioid plexus to glucose is not affected in cases of meningitis. Reduction in cerebro-spinal fluid sugar in meningitis is due to glycolysis within the cerebro-spinal system. The presence of the meningococcus or tubercle bacillus in the spinal fluid is not responsible for the reduction in its sugar content in meningitis due to these organisms. *Bacillus coli* has a glycolytic action, and in coliform meningitis the reduction in cerebro-spinal sugar is in great part due to this. Polymorphonuclear leucocytes possess powers of glycolysis, and their presence is the reason for reduction in cerebro-spinal fluid sugar in purulent meningitis and for the progressive decrease in the fluid's sugar content in tuberculous meningitis. In the course of recovery from meningococcal meningitis the cell picture of the fluid changes from being almost entirely polymorphonuclear to being largely composed of lymphocytes. In the early stages there is great reduction in the cerebro-spinal fluid sugar content, whilst in the later stages, when the exudate is largely composed of lymphocytes, the sugar content approaches the normal level. From the findings in tuberculous meningitis conclusions are not so easily drawn, but some suggestions may be put forward. As the tubercle bacillus has practically no power to break down sugar, and as it is present in the cerebro-spinal fluid only in small numbers, the part it plays in reduction of cerebro-spinal sugar may be disregarded. In the early stages of the disease the cellular exudate in the spinal fluid is largely lymphocytic and at this time the sugar content is not greatly below normal. As the disease progresses to its fatal issue there is an increase in the number of polymorphonuclear cells and a simultaneous decrease in the sugar content occurs.

Irradiated Evaporated Milk in Infant Feeding.

RICHARD W. B. ELLIS (*Archives of Disease in Childhood*, December, 1939) has investigated the prophylactic and curative properties of irradiated evaporated milk. In the first group of cases twenty normal full-term infants, who had received no previous anti-rhachitic treatment, were examined clinically and radiologically for evidence of rickets, and in the absence of this condition were given irradiated evaporated milk in formulæ appropriate for their age. The ages varied from six weeks to ten months, fourteen infants being under six months of age. The infants were in addition given orange juice and, after the age of six months, crusts and cereals. In the second group of cases seven infants suffering from active rickets who had had no previous anti-rhachitic therapy, were treated in hospital on a diet in which the irradiated evaporated milk provided practically the sole source of vitamin *D*. Of the twenty normal infants, at the end of three months one showed radiological evidence of mild active rickets and two of healed rickets. Of the seven infants with active rickets who were treated with irradiated evaporated milk, there was evidence of healing in all cases in from one to three weeks. The author concludes that although irradiated evaporated milk will serve to protect the majority of full-term infants from manifest rickets, it cannot be relied on to do so in all cases. The investigation shows, however, that the milk in question has considerable anti-rhachitic properties. It should therefore serve as a valuable source of vitamin *D*, particularly for infants who receive vitamin *D* supplement irregularly or in insufficient amounts. The milk should not, however, be relied on as a sole source of vitamin *D*, particularly for premature infants. The milk was found easy to use and was well taken by the great majority of infants. No ill effects were observed from its prolonged administration.

Obesity.

HILDE BRUCH (*American Journal of Diseases of Children*, November, 1939) produces evidence that hypothyreoidism does not play an important part, if it plays any part at all, in the pathogenesis of simple obesity. Thyreoid medication and its interruption do not influence the rate of loss of weight during dietetic treatment.

Staphylococcus Aureus Meningitis.

DAVID C. PEWTERBOUGH (*Archives of Pediatrics*, October, 1939) draws attention to the appearance in the literature of an increasing number of patients who have been cured of *Staphylococcus aureus* meningitis. Most of the cases fall into two groups: first, those characterized by localized abscesses involving the meninges and resulting from an extension of suppuration in a contiguous structure; second, those in which primary meningitis occurs, in which a positive *Staphylococcus aureus* culture is obtained with the spinal fluid and in which attempts at the culture of organisms from the blood are successful or unsuccessful. The author reports the recovery of a patient from *Staphylococcus aureus* meningitis and a *Staphylococcus aureus* septicæmia.

The treatment consisted of blood transfusions of 100 cubic centimetres daily for thirteen days and of intravenous injections of 500 cubic centimetres of 0·4% saline solution daily for seven days. During the first ten days lumbar drainage was carried out every eight hours; cisternal drainage was carried out every day, and five grains of sulphanilamide were given every six hours and 40 cubic centimetres of 0·8% solution of sulphanilamide intrathecally every day. On the third day the administration of the sulphanilamide was stopped. *Staphylococcus aureus* antitoxin was given in 100 cubic centimetre doses twice a day, and 40 cubic centimetres were given intrathecally for six days.

ORTHOPÆDIC SURGERY.

Primary Repair of Severed Tendons.

STERLING BUNNELL (*The American Journal of Surgery*, February, 1940) describes his method of primary repair of severed tendons by the use of stainless steel wire. He stresses the point that the primary suture of severed tendons should not be done except under strict indications covering the nature of the wound and adequate facilities of both hospital and surgeon. Operation must be prompt, *débridement* must be thorough, and all vulnerable parts closed over. Repair within a sheath is the most difficult, and such a fascial tunnel should be slit up laterally to allow it to expand sufficiently to accommodate the swelling necessary for tendon healing. For suture material the author favours a very thin, flexible, stainless steel wire of number 34 gauge. With a needle each end, a simple stitch first penetrates the tendon transversely and, after crossing round a few tendon fibres, passes through the tendon diagonally, to emerge from the centre of the tendon end. It is similarly placed in the opposite tendon end and, starting at the tip, emerges farther down the tendon. The tendon ends are slid down these smooth wires and the wires are tied so that the knot sinks into the tendon remote from the suture line. The two ends of the wire are threaded through the depths of the tendon and cut off. At times the author uses a removable wire suture. This is placed in the proximal tendon end in the same manner, but the two ends of the wire are threaded through the distal tendon end and made to emerge from the dorsum of the finger to a firm attachment on the finger nail. A second wire is threaded through the loop in the proximal tendon end, passed proximally up the tendon sheath and then out through the skin, where the ends are left free. Three weeks later the suture in the tendon is removed by pulling on the second wire. If any difficulty is encountered, traction by means of a rubber band will soon loosen the wire. After operation adhesions are guarded against by exercise, but of a passive nature. Reliance is not placed on the strength of suture, but on the immobilization of the joints by splints or plaster of Paris in between the passive movements.

The Problem of the Ununited Fracture.

MELVIN S. HENDERSON (*The American Journal of Surgery*, February, 1940) discusses the problem of the ununited fracture. He divides ununited fractures into two groups: (i) those in which there is still some attempt at repair of bone—delayed union; and (ii) those which are in a fixed state of physiological inertia—non-union. Regarding the ætiological factors as local and not systemic, he states that conservative measures may succeed in stimulating metabolism of bone, but not in cases of non-union. Operative measures, preferably the use of an autogenous bone graft, are necessary in the latter cases. Operation should not be performed in the presence of draining sinuses or of evidence of inflammation. A bone graft as long as possible should be used and must be held firmly on the fragments. This is supplemented by multiple chips of bone packed about the fracture site, from which the fibrous tissue has been removed. The author stresses the necessity for adequate external fixation after grafting operations. Under the heading of technique in certain types of cases he deals with fractures of the neck of the femur and of the lower end of the humerus. The former can be dealt with successfully without arthrotomy in cases in which fibrous union has occurred. The method consists of overcoming the shortening with traction, of securing anatomical alignment and of inserting a large piece of autogenous bone, such as a segment of fibula, which will extend from the trochanter well into the head. This method is not suitable if no fibrous union is present; the open operation is preferable. Fractures of the lower end of the humerus are the most difficult of all humeral fractures to treat and are best treated by the "onlay massive" graft.

Residual Suppurative Arthritis of the Hip Joint.

HALFORD HALLOCK (*The Journal of the American Medical Association*, December 30, 1939) has studied 38 unselected patients who had 46 operations for the reconstruction or stabilization of a hip joint that had been damaged or destroyed by previous suppurative arthritis. The operations consisted of 20 reconstructions, 4 arthroplasties, 7 shelf stabilizations and 15 fusions. The type of reconstructive procedure, in general, was a reshaping of the femoral neck, if sufficient length remained, and the placing of it in the acetabulum, followed by a transplantation downwards of the greater trochanter. Arthroplasty was carried out by the fashioning of a more or less characteristic articulation with the employment of interposed tissue. Shelf stabilization was performed by turning down a flap from the ilium above the displaced femur. The type of fusion operation varied; in nine cases a Hibb's procedure was used; in three cases grafts from the ilium were employed, and in two direct contact was made between the end of the femur and the acetabulum or the ilium. A review of these cases indicates that reconstructive procedures in children generally result in control of the dislocated and painless hip, but with considerably limited ranges of movement. Relief of pain was not permanent, because this type of operation did not produce a very good joint mechanically. Arthroplasty accomplished this much better, but not many patients had enough residual bony structure for this type of procedure. Well-constructed and well-placed shelves provided dislocated hips with stability and reasonably good ranges of movement, but because of shortening the patients had marked limps. The fusion operations provided stable painless hips, and the best results were secured with unilateral involvement. The author emphasizes the necessity for early diagnosis along with immediate and adequate drainage in cases of suppurative arthritis of the hip joint, so as to decrease the number of unfortunate persons requiring reconstructive and other surgical procedures because of the ravages of this serious condition.

Spondylolisthesis.

HAROLD H. HITCHCOCK (*Journal of Bone and Joint Surgery*, January, 1940) discusses the development, progression and genesis of spondylolisthesis. He describes three cases in which he was able to watch the progressive nature of the forward slipping of the fifth lumbar vertebra on the sacrum, and reproduces the radiographs illustrating the progression of the condition. He states that it is now generally recognized that the fundamental lesion which precedes and results in spondylolisthesis is an interruption in the continuity of the neural arch. As the result of his study of vertebral ossification in ninety human fœtuses he refutes the contention of Rambaud and Renault that each lateral half of the neural arch ossifies from two centres. Experiments were carried out on stillborn children and on infant cadavera. It was found that hyperflexion of the spine, often of very moderate degree and with little force, readily fractured the neural arch in the lower lumbar region. Such a force could be applied during delivery or shortly after birth. Attempts at hyperextension of the spine completely failed to fracture the laminæ; if the position was forced, tearing of the anterior longitudinal ligament and separation of the vertebral bodies ensued.

British Medical Association News.

ANNUAL MEETING.

THE annual meeting of the New South Wales Branch of the British Medical Association was held at the Robert H. Todd Assembly Hall, British Medical Association House, 135, Macquarie Street, Sydney, on March 28, 1940, DR. GEORGE BARRON, O.B.E., the President, in the chair.

ANNUAL REPORT OF THE COUNCIL.

On the motion of Dr. A. J. Collins, seconded by Dr. W. F. Simmons, the annual report of the Council was received and adopted. The report is as follows.

The Council presents the following report on the work of the Branch for the year ended March 28, 1940.

Membership.

The membership of the Branch is now 1,857, as against 1,791 at the date of the last report. The additions have included 116 elections, re-elections and resumptions, and 30 removals into the area of the Branch; while the losses have included 13 by resignation, 21 removals out of the area of the Branch, 29 by default in payment of subscription, and 17 by death. The losses by death were as follows: Dr. J. P. Kelly, Dr. H. V. D. Baret, Dr. A. I. Blue, Dr. F. S. Taylor-Thomas, Dr. W. Mawson, Dr. A. Q. O. Harrison, Sir John L. McKelvey, Dr. A. C. Culey, Dr. John MacPherson, Dr. Sinclair Gillies, Dr. C. Mattei, Dr. J. A. J. Murray, Dr. R. G. J. McEntire, Dr. L. B. Diamond, Dr. Agnes McFadden, Dr. H. Graves Bennetts, Dr. F. H. V. Voss.

Meetings.

Ten ordinary meetings of the Branch (including the annual general meeting), four extraordinary meetings and eight clinical meetings were held. The average attendance was 62. Eight of the ordinary meetings were held in conjunction with meetings of sections, namely: April 27, with the Section of Neurology and Psychiatry and the Section of Medicine; May 25, with the Section of Neurology and Psychiatry and the Section of Pædiatrics; June 29, with the Section of Medicine, the Section of Anæsthesia and the Section of Surgery; July 27, with the Section of Orthopædics and the Section of Surgery; August 31, with the Section of Medicine, the Section of Pathology and Bacteriology and the Section of Pædiatrics; September 28, with the Section of Neurology and Psychiatry; October 26, with the Section of Pædiatrics and the Section of Oto-Rhino-Laryngology; November 30, with the Section of Medicine. The clinical meetings were held at the Royal Alexandra Hospital for Children, the Royal Prince Alfred Hospital, the Royal North Shore Hospital, the Women's Hospital (Crown Street), the Prince Henry Hospital, the Sydney Hospital, Saint Vincent's Hospital, and the Broughton Hall Psychiatric Clinic. The business of the meetings included fourteen papers and addresses, numerous reports of cases, exhibits and demonstrations, and the showing of films. The extraordinary meeting on May 4 was convened for the purpose of discussing the new proposals of the Commonwealth Government in regard to National Health Insurance. At the extraordinary meetings convened on August 31 and November 9 a new Article (Article 52A) was constituted and By-Law 4 was amended, respectively. Major-General R. M. Downes, C.M.G., Director-General of Medical Services, addressed members at the extraordinary meeting on January 11 on "The Medical Requirements of the Australian Defence Forces, both Local and Expeditionary". An invitation was extended to the fifth and sixth year medical students of the University of Sydney to attend ordinary meetings and to sixth year medical students to attend clinical meetings of the Branch.

On behalf of the Association, Dr. A. J. Collins and Dr. A. S. Walker read papers at a meeting of the Veterinary Association of New South Wales held November 7, 1939, the subject being "A Symposium on Tuberculosis".

Representatives.

The Branch was represented as follows:

1. Council of the British Medical Association (1938-1941): Professor R. J. A. Berry.
2. Representative Body of the British Medical Association (1939-1940): Representative, Dr. A. A. Palmer; Deputy Representative, Dr. W. C. B. Harvey.
3. 107th annual meeting, British Medical Association, Aberdeen, 1939: Delegates, Dr. W. C. B. Harvey, Dr. H. V. P. Conrick.
4. Federal Council of the British Medical Association in Australia: Dr. George Bell, O.B.E., Dr. W. F. Simmons.
5. Contract Practice Subcommittee of the Federal Council: Dr. H. R. R. Grieve.
6. Australasian Medical Publishing Company Limited: Dr. T. W. Lipscomb, Dr. F. P. Sandes, Dr. A. M. Davidson, O.B.E.
7. New South Wales Post-Graduate Committee in Medicine: Professor W. K. Inglis, Dr. L. W. Dunlop.
8. Ophthalmic Association Limited: Dr. Colin Ross.
9. Australian Aerial Medical Services: Representative, Dr. George Bell, O.B.E.; Deputy Representative, Dr. J. G. Hunter.
10. Council of the Bush Nursing Association (1939-1940): Dr. G. M. Barron, O.B.E.
11. Board of Control of the Campaign against Tuberculosis: Dr. A. S. Walker.
12. Metropolitan Hospitals Contribution Fund of New South Wales: Dr. R. V. Graham.
13. St. John Ambulance Association: Dr. G. M. Barron, O.B.E.
14. Executive Committee of the Council for Mental Hygiene for New South Wales: Dr. C. K. Parkinson.
15. Standards Association of Australia: (i) Institutional Supplies Committee, Dr. S. W. G. Ratcliff; (ii) Sectional Committee on Interior Illumination of Buildings, Dr. E. A. Brearley; (iii) Committee for a Safety Code in the Use of Paints, Dr. A. J. Collins, D.S.O., M.C.
16. Medical Officers' Relief Fund (Federal): Local Committee of Management for New South Wales, Dr. E. H. M. Stephen, Dr. A. M. Davidson, O.B.E., Dr. A. J. Collins, D.S.O., M.C.
17. Road Safety Council: (i) Committee for the Determination of Visual Standards for Motor Drivers, Dr. R. G. Waddy; (ii) Committee for the Determination of the Physical Capacity of Motor Drivers, Dr. J. Hoets.
18. Police Boys' Club: Dr. G. M. Barron, O.B.E.
19. Medical Appointments Advisory Committee (Hospitals Commission of New South Wales): Dr. W. Vickers, D.S.O.
20. Australian League of Nations—Refugee Emergency Council: Dr. E. P. Blashki.
21. Special Departmental Committee for the Investigation of Maternal Deaths: Dr. L. A. Dey.
22. Recreation and Leadership Movement: Professor Harvey Sutton, Dr. W. C. McClelland.
23. Council of the Royal Society for the Welfare of Mothers and Babies: Dr. E. H. M. Stephen, Sir Robert Wade.
24. Organization and Coordination of Medical Services of the Commonwealth: Dr. A. J. Collins, D.S.O., M.C., Dr. W. Vickers, D.S.O.
25. New South Wales Medical Board: Dr. J. R. Ryan.
26. The Free Library Movement: Dr. E. H. M. Stephen.
27. Workers' Educational Association: Dr. R. A. M. Allen, M.C.
28. New South Wales Institute of Hospital Almoners: Dr. W. Vickers, D.S.O.
29. Council of Education: Dr. A. J. Collins, D.S.O., M.C.
30. Department of Physical Education: (i) Physical Education Advisory Committee, Professor Harvey Sutton, O.B.E.; (ii) Pre-School and Sub-Primary Committee, Dr. J. Hoets, Dr. D. G. R. Vickery.

31. Australian and New Zealand Association for the Advancement of Science: Professor Harvey Sutton, Professor Henry Priestley.
32. Commonwealth of Australia—Department of Information: Dr. J. G. Hunter.

Council.

(*a*) The attendance of members of the Council and of the standing committees was as set out in the accompanying table.

(*b*) The representatives of the Local Associations of Members, appointed on the invitation of the Council to attend the regular quarterly meetings of the Council, were as follows: Dr. C. G. Bayliss (Canterbury-Bankstown), Dr. A. B. K. Watkins (Central Northern), Dr. J. H. Coles (Central Southern), Dr. C. G. Champion (Central Western), Dr. J. H. Leadley (Eastern Suburbs), Dr. L. W. Wing (Far South Coast and Tablelands), Dr. G. F. Elliott (Illawarra Suburbs), Dr. L. Cowlishaw (Kuring-gai District), Dr. W. F. L. Liggins (Northern District), Dr. C. H. Jaede (South Sydney), Dr. Brooke Moore (Western), Dr. R. V. Graham (Western Suburbs).

Library.

Dr. A. M. McIntosh was appointed to the position of Honorary Librarian.

The following are the figures for the year:

Visitors to the Library	3,167
Books lent to members	520
Journals lent to members	1,755
Books added to the library	83
Journals added to the library	5

Donations of books and periodicals were received from the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, Dr. James McKenty, Australian Dental Association, Dr. H. C. R. Darling, Dr. Bernard Meyer, Dr. D. G. Carruthers, Dr. D. N. Knox, Dr. C. Alma Baker, Dr. C. M. Edwards, Dr. G. Bell, Dr. P. Tillet, Dr. T. M. Furber, Dr. Hilda Bull, Dr. L. Cowlishaw, Dr. E. P. Blashki, Dr. M. S. S. Earlam, Mrs. R. H. Todd, Mrs. Sinclair Gillies, United States Army Medical Library, the Mayo Clinic Library, the Royal Society of New South Wales, the Medical Society of Victoria, editorial staff of the Prince Henry Hospital, Commonwealth Serum Laboratories, Melbourne Post-Graduate Committee, the Section of Radiology, the Section of Pathology and Bacteriology, the Section of Obstetrics and Gynæcology, and the Section of Medicine.

The following journals have been added to the library by purchase and donation: *British Heart Journal, Archives of Otolaryngology, The Rheumatic Diseases* (official journal of the Scientific Advisory Committee of the Empire Rheumatism Council), *Acta Radiologica* (donated by the Section of Radiology), and the *Cleveland Clinic Quarterly* (donated by Dr. H. C. R. Darling).

Affiliated Local Associations of Members.

After communication with the Local Associations concerned, the Shires of Erina and Woy Woy and the Municipality of Gosford, which were previously part of the area of the Kuring-gai District Medical Association, were added to the area of the Central Northern Medical Association; and the Shires of Stroud and Wallarobba, previously part of the area of the Eastern District Medical Association, were also added to the area of the Central Northern Medical Association. It was decided to disband the City Medical Association and include its area within that of the Eastern Suburbs Medical Association.

Border (affiliated 1908): *Chairman*, Dr. C. M. MacKnight; *Honorary Secretary*, Dr. L. S. Woods. Membership, 13. Four meetings were held.

Canterbury-Bankstown (affiliated 1930): *Chairman*, Dr. L. Abramovich; *Honorary Secretary*, Dr. G. Russell. Membership, 27. Four meetings were held.

Central Northern (affiliated 1910): *Chairman*, Dr. A. B. K. Watkins; *Honorary Secretary*, Dr. O. J. Ellis. Membership, 77. Seven meetings were held.

Central Southern (affiliated 1909): *Honorary Secretary*, Dr. R. G. Woods. Membership, 29.

Central Western (affiliated 1910): *Chairman*, Dr. C. G. Champion; *Honorary Secretary*, Dr. K. S. M. Brown. Membership, 52. Two meetings were held.

ATTENDANCES AT COUNCIL AND STANDING COMMITTEE MEETINGS.

	Council.	Committees.				
		Executive and Finance.	Organization and Science.	Medical Politics.	Hospitals.	Ethics
DR. G. M. BARRON (President)	14	11	2	10	3	3
DR. GEORGE BELL (Hon. Treasurer and Premises Attorney)	14	12	2	6	1	1
SIR CHARLES BLACKBURN	10	—	—	—	—	3
DR. K. S. M. BROWN	14	—	—	11	—	—
DR. A. J. COLLINS (Hon. Secretary)	13	9	1	6	0	1
DR. A. M. DAVIDSON	10	12	—	—	—	—
DR. L. A. DEY	12	11	—	—	—	—
DR. B. T. EDYE (Past President)	11	5	—	—	—	2
DR. H. R. R. GRIEVE	12	5	—	6	—	—
DR. P. L. HIPSLEY	12	—	—	—	3	2
PROFESSOR W. K. INGLIS (President-Elect) ..	12	9	3	10	2	2
DR. H. HUNTER JAMIESON	13	—	—	10	—	—
DR. A. M. MCINTOSH (Hon. Librarian)	10	12	2	—	—	—
DR. K. C. T. RAWLE	10	—	—	9	3	—
DR. W. F. SIMMONS	14	—	—	11	—	—
DR. E. H. M. STEPHEN	10	—	—	—	—	3
DR. A. C. THOMAS	11	—	2	—	3	—
DR. E. A. TIVEY	11	—	—	—	—	3
DR. R. C. TRAILL	12	—	—	8	1	—
DR. A. S. WALKER	11	—	2	—	—	1
Meetings held	14	13	3	11	3	3

City (affiliated 1913): *Chairman and Honorary Secretary*, Dr. L. R. Flynn.

Eastern District (affiliated 1913): *Honorary Secretary*, Dr. N. E. McLaren.

Eastern Suburbs (affiliated 1911): *Chairman*, Dr. J. H. Leadley; *Honorary Secretary*, Dr. C. M. Burns. Membership, 103. Six meetings were held.

Far South Coast and Tablelands (affiliated 1935): *Chairman*, Dr. J. Macarthur; *Honorary Secretary*, Dr. K. S. Jones. Membership, 12. Three meetings were held.

Illawarra Suburbs (affiliated 1913): *Chairman*, Dr. G. W. Ashby; *Honorary Secretary*, Dr. K. S. Richardson. Membership, 46. Six meetings were held.

Kuring-gai District (affiliated 1929): *Chairman*, Dr. R. C. Geeves; *Honorary Secretary*, Dr. E. A. Cook. Membership, 65. Five meetings were held.

North Eastern (affiliated 1913): *Honorary Secretary*, Dr. J. B. Oakeshott.

Northern District (affiliated 1911): *Chairman*, Dr. J. K. Harbison; *Honorary Secretary*, Dr. R. J. Jackson. Membership, 75. Two meetings were held.

South Eastern (affiliated 1914): *Honorary Secretary*, Dr. A. L. Caselberg.

South Sydney (affiliated 1909): *Chairman*, Dr. S. George; *Honorary Secretary*, Dr. C. H. Jaede. Membership, 33. Three meetings were held.

Southern District (affiliated 1909): *Chairman*, Dr. N. F. Benjamin; *Honorary Secretary*, Dr. R. E. R. Skinner. Membership, 47. Two meetings were held.

Warringah District (affiliated 1929): *Chairman*, Dr. J. S. F. Elphinstone; *Honorary Secretary*, Dr. E. L. Newman. Membership, 71. Seven meetings were held.

Western (affiliated 1908): *Chairman*, Dr. W. W. Cameron; *Honorary Secretary*, Dr. S. R. Dawes. Membership, 80. Three meetings were held.

Western Suburbs (affiliated 1908): *Chairman*, Dr. R. F. Back; *Honorary Secretary*, Dr. R. J. Waddington. Membership, 80. Six meetings were held.

Annual Meeting of Delegates.

The twenty-seventh annual meeting of delegates of the affiliated Local Associations of members with the Council was held on Friday, September 29, 1939. An account of the proceedings of the meeting appeared in THE MEDICAL JOURNAL OF AUSTRALIA of October 28, 1939, pages 659-665.

The delegates present at the meeting were as follows: *Border*, Dr. R. A. Robertson; *Canterbury-Bankstown*, Dr. L. Abramovich; *Central Northern*, Dr. O. J. Ellis; *Central Southern*, Dr. R. O. Williams; *Central Western*, Dr. G. N. M. Aitkens; *Eastern Suburbs*, Dr. J. H. Leadley; *Far South Coast and Tablelands*, Dr. J. Macarthur; *Illawarra Suburbs*, Dr. G. F. Elliott; *Kuring-gai District*, Dr. W. L. Kirkwood; *Northern District*, Dr. R. J. Jackson; *North Eastern*, Dr. J. R. Ryan; *Southern District*, Dr. N. F. Benjamin; *South Eastern*, Dr. A. L. Caselberg; *South Sydney*, Dr. C. H. Jaede; *Warringah District*, Dr. R. V. Bretherton; *Western*, Dr. R. D. Mulvey; *Western Suburbs*, Dr. R. F. Back.

Special Groups for the Study of Special Branches of Medical Knowledge.

Anæsthesia (inaugurated 1934): *Chairman*, Dr. W. I. T. Hotten; *Honorary Secretary*, Dr. H. J. Daly. Membership, 10. One meeting was held in conjunction with a meeting of the Branch.

Genito-Urinary and Venereal Diseases (inaugurated 1928).

Hygiene and Preventive Medicine (inaugurated 1922).

Medical Literature and History (inaugurated 1925): *Honorary Secretary*, Dr. L. Cowlishaw.

Medicine (inaugurated 1924): *Chairman*, Dr. A. S. Walker; *Honorary Secretary*, Dr. W. E. Fisher. Membership, 50. Seven meetings were held, four in conjunction with meetings of the Branch.

Neurology and Psychiatry (inaugurated 1924): *Chairman*, Dr. C. G. McDonald; *Honorary Secretary*, Dr. C. Henry. Membership, 46. Four meetings were held, three in conjunction with meetings of the Branch.

Obstetrics and Gynæcology (inaugurated 1925): *Chairman*, Dr. H. A. Ridler; *Honorary Secretary*, Dr. G. G. L. Stening. Membership, 51. Three meetings were held.

Orthopædics (inaugurated 1923): *Chairman*, Dr. W. Vickers; *Honorary Secretary*, Dr. L. Macdonald. Membership, 25. Four meetings were held, one in conjunction with a meeting of the Branch.

Oto-Rhino-Laryngology (inaugurated 1924): *Chairman*, Dr. E. McA. Steel; *Honorary Secretary*, Dr. D. G. Carruthers. Membership, 33. Nine meetings were held, one in conjunction with a meeting of the Branch.

Pædiatrics (inaugurated 1921)): *Chairman*, Dr. G. Keith Smith; *Honorary Secretary*, Dr. W. P. MacCallum. Membership, 30. Six meetings were held, three in conjunction with meetings of the Branch.

Pathology and Bacteriology (inaugurated 1924): *Chairman*, Dr. O. Latham; *Honorary Secretary*, Dr. F. S. Hansman. Membership, 35. Seven meetings were held, one in conjunction with a meeting of the Branch.

Radiology (inaugurated 1926).

Surgery (inaugurated 1925): *Honorary Secretary*, Dr. C. E. Winston. Two meetings were held in conjunction with meetings of the Branch.

British Medical Association Lectures.

Lectures were arranged as follows:

North Eastern Medical Association: Lismore, April 1, 1939—Dr. C. G. McDonald, "Nephritis".

Western Medical Association: Mudgee, May 28, 1939—Dr. T. M. Greenaway, "Rheumatoid Arthritis"; Dr. N. R. Wyndham, "Intestinal Obstruction".

Northern District Medical Association: Armidale, December 6, 1939—Dr. A. M. McIntosh, "The Treatment of War Injuries of the Extremities".

Federal Council.

The Federal Council of the British Medical Association in Australia met in Sydney on September 7 and 8, 1939, and in Melbourne on February 29 and March 1, 1940, Dr. George Bell and Dr. W. F. Simmons attending as representatives of the Branch. The reports of these meetings were published in THE MEDICAL JOURNAL OF AUSTRALIA.

The Council entertained the members of the Federal Council and the Directors of the Australasian Medical Publishing Company Limited at dinner during the September meeting.

Dr. H. R. R. Grieve attended as representative of the Branch a meeting of the Contract Practice Subcommittee of the Federal Council held in Melbourne on November 25, 1939.

Australasian Medical Congress (British Medical Association).

Owing to the war, the date of holding of the Sixth Session of the Australasian Medical Congress has been postponed indefinitely.

National Health Insurance.

In order to explain the new proposals of the Commonwealth Government regarding National Health Insurance, meetings of Local Associations were addressed by members of the Council. In the case of the country Local Associations, the meetings were addressed by the President, who, accompanied by the Medical Secretary, made a special tour of the State for this purpose.

Dr. H. R. R. Grieve represented the Branch at a meeting of the Contract Practice Subcommittee of the Federal Council with the Commonwealth Minister for Health in Melbourne on May 17, 1939.

Owing to the war, the operation of the *National Health and Pensions Insurance Act* has been postponed—probably, it would seem, for the duration of the war.

Contract Practice.

1. *Friendly Society Lodge.*

(*a*) Dr. H. R. R. Grieve represented the Branch on the Contract Practice Subcommittee at its meeting in Melbourne on November 25, 1939, when the question of amending the Model Common Form of Agreement was being considered.

(*b*) Approval was given by the Council to a proposal of the Grand United Order of Oddfellows for contracts to be arranged with the Grand Lodge and lodge medical officers.

Excepting that all additions to and deletions from the lists will be on a monthly basis (the arrangement to be on trial for twelve months), the same terms and conditions of the Common Form of Agreement will apply and agreement forms will be issued as usual.

2. *Other Contract Practice.*

With the object of obtaining some accurate information relating to the economics of medical care, permission was given to the members at Canberra, and also at Scone, to introduce a scheme for the provision of medical benefits whereby subscribers to the scheme would for an annual payment be entitled to comprehensive medical benefits.

Hospitals.

1. *Inquiry by Parliamentary Committee.*

The Medical Secretary represented the Association before the Joint Committee of the Legislative Council and Legislative Assembly, which was appointed to inquire into and report upon: (*a*) the appointment of honorary doctors and graduands to hospitals, (*b*) the treatment of and charges to patients in private, intermediate and public hospitals, and (*c*) all matters incidental thereto and connected therewith. The committee has not yet completed its deliberations.

On behalf of the Association, Sir Charles Blackburn submitted a statement dealing with the question of the staffing of hospitals by honorary medical officers.

2. *Royal North Shore Hospital.*

Representations were made to the Minister for Health and also to the Board of Management in regard to the appointments to the honorary medical staff of the Royal North Shore Hospital.

3. *Public Hospital Inquiries.*

A request has been made to the Hospital Commission of New South Wales that in any inquiry into the professional conduct of a member of a staff of a public hospital, a person with legal training should be appointed to conduct the inquiry, with a medical practitioner to assist in an advisory capacity, and, further, that there should be the right of appeal from the decision of the Commission.

Hospital Policy.

After consultation with the Local Associations, amendments were made to the Hospital Policy, which now reads:

1. The Association, whilst asserting the right of medical practitioners to receive payment for their services in public hospitals, advises its members to continue the service of honorary attendance to public bed patients, provided that no patient shall be admitted to a public bed who shall be judged by the hospital executive as being able to pay in part or in whole for medical treatment.

2. The Association considers that the visiting medical officers to a public hospital should have representation on the board of management of the hospital; and that, where possible, at least one-third of the board of management should be medical practitioners, two of whom should be direct representatives of the visiting medical staff; and that, where the chairman of the board is a lay person, the vice-chairman should be a medical practitioner and *vice versa*.

3. The Association considers:

(*a*) That public hospitals should be open to, and provide accommodation for, all classes of patients—public bed, intermediate and private, according to their means—and that intermediate and private patients should pay for medical attention.

(*b*) That all reputable medical practitioners should be entitled to render services to intermediate or private patients in all public hospitals.

4. The Association is of the opinion that the finance of hospitals would be best met by:

(*a*) Hospital insurance scheme.

(*b*) Collection of fees from people not insured.

(*c*) Voluntary contributions—to continue to be sought and to be used (i) for capital expenditure—new buildings; (ii) to finance research work; (iii) to supply special appliances for investigation and treatment; (iv) for the treatment of the indigent.

(*d*) Government subsidy: (i) for maintenance; (ii) special subsidy to those hospitals employing special method of investigation and treatment.

(*e*) Payments on behalf of patients by the Commonwealth and State or any other body, *e.g.*, State children, pensioners, public servants injured in the execution of their duties *et cetera*.

5. The Association considers that all insurance and similar schemes should provide for in-patient treatment only, and that all insurance (contributory) schemes should be uniform in character, and that there should be reciprocity between the different schemes.

6. The Association considers that:

(*a*) The primary consideration in the admission of a patient to hospital should be the suitability of the case on medical grounds.

(*b*) Every person admitted to a public bed must satisfy the hospital inquiring authority by statutory declaration that he or she is a fit and proper person to receive gratuitous medical treatment.

(*c*) Efficient means of investigation into the circumstances of the applicants for relief by means of an almoner or other agent should be employed in all hospitals.

(*d*) A central hospital admission depot should be established by the Hospitals Commission, such depot to be directly responsible for the admission of all acute cases to all metropolitan hospitals.

7. The Association considers that all in-patients should be classified by the hospital executive according to their ability to pay for services rendered.

8. The Association considers that the out-patient department should be mainly for purposes of consultation, but that the casualty department should be available in every emergency, and that application for such consultation should be made on a standard form, which shall contain a statement of the patient's means; provided always that the indigent sick be entitled to continuous treatment where necessary.

9. The Association considers that:

(*a*) The system of visiting medical officers to hospitals should be maintained.

(*b*) All vacant positions on the visiting medical staff of public hospitals should be advertised both in the medical and lay Press, and that such advertisement should conform to the standard of ethics laid down by the Association.

10. The Association considers that wherever possible special facilities should be provided at public hospitals for post-graduate study.

11. The Association considers that visiting medical officers to hospitals should be elected in the following manner:

(*a*) In respect of the teaching hospitals, by a joint board composed of representatives of the hospital and the University.

(*b*) In respect of all other hospitals, the recommendation of the Hospitals Commission Medical Appointments Advisory Committee should first be obtained by the Board in respect of such appointments, and that the Hospitals Commission Medical Appointments Advisory Committee should coopt two members of the honorary medical staff of the hospital previously instructed by the staff, and that no variation from the recommendation of the Advisory Committee be made by the Board without further reference to the Committee.

Articles and By-Laws.

1. In pursuance of a special resolution which was passed at an extraordinary meeting of the Branch held on August 31, 1939, a new Article (52A) was constituted to provide, where authorized, for the payment of the travelling expenses of members attending meetings of Council or of committees or conferences.

2. At an extraordinary general meeting held on November 9, 1939, By-Law 4 was amended by the deletion of the words "Five Pounds Five Shillings" wherever occurring and the substitution in lieu thereof of the words "Six Pounds Six Shillings", and also by the deletion of the words "Four Pounds Four Shillings" wherever occurring and the substitution in lieu thereof of the words "Five Pounds Five Shillings".

Subsidized Doctors.

Representations were made to the Government that in order to encourage medical practitioners to settle in sparsely populated areas and so provide the people in these areas with proper and efficient medical services, the guaranteed income at present offered, namely, five hundred pounds (£500), which was regarded as wholly inadequate, should be increased to one thousand pounds (£1,000).

The Council is pleased to note that the Government has seen fit to do so.

The Medical Practitioners Act.

Strong exception was taken to the regulations governing advertising by unqualified persons which were promulgated in the *Government Gazette* on August 11, 1939, and subsequently laid before both houses of Parliament.

Representations of the Council in this regard were not accepted by the Minister for Health, but the Upper House in its wisdom saw fit to reject the regulations.

A further set of regulations were promulgated in the *Government Gazette* of February 29, 1940. Although the two Regulations 28 and 29 which were contained in the first set, and to which most exception was taken, have now been omitted, exception is still taken to the regulations on the grounds that the passing into effect of any regulations relating to advertising automatically gives the unqualified person legal status and entitles him to say that he is, to use the words of the Act [Section 42 (2)], "entitled, qualified, able or willing to practise medicine or surgery in any of its branches . . ." and that it is not in the public interest that the unqualified persons should be allowed to advertise in the manner set out in the regulations.

War Emergency Organization.

(*a*) *Protection of Practices.*—The Council adopted with some modifications of the financial arrangements the model scheme of the Federal Council for the protection of the practices of members of the profession engaged in war service.

The objects of the scheme are, firstly, to protect as far as possible the capital value of the practice of the member on active service, and, secondly, to ensure that he receives an adequate income. Subject to their approval by the Council, the actual financial arrangements are left to the members in each area.

The Council is pleased to note that already a number of Local Associations have submitted their arrangements to the Council for approval.

(*b*) *National Emergency Services.*—During the year the Council cooperated with the National Emergency Services in regard to the examination of members of the general public who had been trained in first aid in the metropolitan area and certain country areas.

To those members who responded to the Council's appeal for examiners, and also to the Honorary Secretaries of Local Associations, who rendered invaluable assistance in making the necessary arrangements for the examinations, the Council is greatly indebted.

The Council has also agreed to cooperate with the National Emergency Services in appealing to members to volunteer for duty as medical officers to first aid posts and parties established by the National Emergency Services for the purpose of providing first aid treatment to the civilian population in times of national emergency.

Department of Medical Sociology and Research.

With the objects of rendering a public service by collecting information and compiling records of medical and sociological importance based on accurate information for dissemination among the public by every available channel, such as by the public Press, public addresses and broadcasting, a Department of Medical Sociology and Research has been established by the Council. The department is in charge of an officer who is responsible, through the Medical Secretary, to the Council. As soon as the organization is completed, members will be advised of the activities of the department.

British Medical Agency of New South Wales Limited.

The annual meeting of members of the British Medical Agency of New South Wales Limited was held at the British Medical Association House, 135 Macquarie Street, Sydney, on Tuesday, October 3, 1939.

The Chairman, Sir Robert Wade, presented the report of the Directors on the business of the Agency for the year ended June 30, 1939. He explained that the operations of the Agency had become very much more successful since the establishment of Medical Finance Limited, as it enabled the Agency to sell practices which otherwise they would be unable to handle.

The financial statements, which were presented, disclosed that a profit of over £1,250 had been made during the year after providing for £360 to be reserved to meet taxation assessments—a good result, considering the unrest that existed owing to the impending war in Europe and the doubt as to the outcome if war should actually break out. The volume of business had been fairly well maintained, and the company should be able to show a fair profit in the ensuing year, in spite of the fact that the war would obviously curtail activities in some directions.

In his report, the Chairman expressed the thanks of the Directors for the support which had been given to the Agency by members of the Association in this State.

The report of the Directors and the Auditors' report were adopted, and the retiring Directors were reelected for the ensuing year. These were: Sir Robert Wade (Chairman), Dr. F. Brown Craig, Dr. A. M. Davidson, Dr. George Bell and Dr. A. M. McIntosh.

Medical Finance Limited.

The second annual general meeting of shareholders of Medical Finance Limited was held on Tuesday, October 3, 1939. The Chairman of Directors, Sir Robert Wade, was in the chair.

The annual report of the company was submitted to the meeting. This showed that the total amount of loans granted as at June 30, 1939, was over £50,000, and that a small profit had been made on the turnover after the deduction of administrative and overhead expenses. The demand which existed during the year for suitable accommodation had been almost as heavy as in the first year of its existence, but it was not possible to grant every application.

The Chairman explained that it had not been necessary at present to call up any of the contingent liability of the shareholders and, further, that in the opinion of the Directors it would not be necessary to do so for the time being. Reserve accounts had been built up from commissions earned as the result of the operations of Medical Finance Limited, and these reserves were in the books of the British Medical Agency of New South Wales Limited.

The retiring Directors, Sir Robert Wade (Chairman), Dr. F. Brown Craig, Dr. A. M. Davidson, Dr. George Bell and Dr. A. M. McIntosh, were reelected for the ensuing year.

Social.

Golf.—The annual competition—18 holes stroke handicap for the H. Rutherford Darling Cup—which was played on the links of the New South Wales Golf Club, La Perouse, on Thursday, November 23, 1939, was won by Dr. U. L. Brown, the runners-up being Dr. C. M. Burns and Dr. M. R. Morey.

British Medical Association House Revenue Account.

The Premises Revenue Account discloses a net surplus of £3,525 4s. 10d., as against a net surplus of £3,778 7s. 10d. for the year ended December 31, 1938, being a decrease of £253 3s. This decrease of £253 3s. in the net amount of revenue earned is mainly due to the provision of £450 for reserve for doubtful debts, together with increases in: wages £303 16s. 7d., Federal income tax £395 5s. 6d., decreases in maintenance of building £112 14s. 5d., and interest paid to the Australian Mutual Provident Society £277 18s. 10d. The rent revenue increased by £438 7s.

A comparison of the annual percentages of expenditure to rent revenue from the time of opening the building in 1930 up to December 31, 1939, is as follows:

	Percentage of Expenses to Revenue.	Percentage of Result to Revenue.
½ year to December 31, 1930	119·4	Deficiency 19·4
1 year to December 31, 1931	114·8	Deficiency 14·8
1 year to December 31, 1932	109·8	Deficiency 9·8
1 year to December 31, 1933	97·9	Surplus 2·1
1 year to December 31, 1934	77·7	Surplus 22·3
1 year to December 31, 1935 (including depreciation)	102·1	Deficiency 2·1
1 year to December 31, 1936 (including depreciation)	89·0	Surplus 11·0
1 year to December 31, 1937 (including depreciation)	82·7	Surplus 17·3
1 year to December 31, 1938 (including depreciation)	78·6	Surplus 21·4
1 year to December 31, 1939 (including depreciation and provision for doubtful debts)	80·6	Surplus 19·4

The percentages of rent revenue, expenses and depreciation and the percentage of net surplus for the year to the capital value of the British Medical Association House as shown by the books at December 31, 1939, namely, £172,448 11s. 3d., with the previous year's percentages in parentheses, are as follows:

		1938.
Rent Revenue (including amount charged for British Medical Association offices *et cetera*)	10·50%	(10·09%)
Sundry Expenses, Interest and provision for painting building	6·58%	(6·33%)
Reserve for Doubtful Debts	0·26%	
Depreciation of Building	1·62%	
	8·46%	(1·60%)
Net Surplus for Year	2·04%	(2·16%)

BRANCH ACCOUNT.

Income and Expenditure Account for the Year Ended December 31, 1939.

December 31, 1939—	£ s. d.	£ s. d.
To Salaries	1,888 19 5	
„ Rent—Offices, etc.	1,000 0 0	
„ Printing and Stationery	289 19 9	
„ Stamps and Telegrams	271 12 11	
„ Telephones	115 16 9	
„ Legal Expenses	69 0 0	
„ Travelling Expenses	57 2 9	
„ Insurance	5 9 2	
„ Exchange and Bank Charges	9 1 9	
„ Refreshments—Meetings	19 2 0	
„ Newspapers	4 3 3	
„ Sundry Petty Expenses	55 16 11	
„ Gratuity	60 0 0	
„ Tea Money	23 18 4	
„ Federal Council	545 10 0	
		4,415 13 0
„ Depreciation—		
Library	107 10 0	
Office Furniture and Equipment	43 14 4	
		151 4 4
„ Balance, being Surplus for the year ended December 31, 1939, transferred to Accumulated Funds Account		352 16 6
		£4,919 13 10

December 31, 1939—	£ s. d.	£ s. d.
By Subscriptions Received—		
1939	8,491 12 3	
1938	306 4 9	
Previous years	64 1 0	
		8,861 18 0
Less Proportion due to—		
British Medical Association	2,309 6 8	
THE MEDICAL JOURNAL OF AUSTRALIA	1,802 7 6	
		4,111 14 2
		4,750 3 10
„ Interest	4 0 0	
„ Rent—Assembly Hall	151 16 0	
„ Sales—C.F.A., etc.	13 14 0	
		169 10 0
		£4,919 13 10

Financial Statement.

The Council has pleasure in presenting to members the balance sheet and accounts in respect of the financial year which terminated on December 31, 1939.

The net surplus of revenue over expenditure for the year amounted to £3,878 1s. 4d., after making provision for all known expenses.

The sum of £2,953 1s. 3d. has been written off for depreciation of the building (British Medical Association House), plant, office furniture and equipment, and the library.

A sum of £200 has been provided out of the current year's revenue to create a reserve for painting the exterior of the building. This amount for the time being is used in the business of the Association.

Dr. George Bell moved that the statement of receipts and expenditure be received. The motion was seconded by Dr. B. T. Edye and carried. Dr. Bell also dealt with the balance sheet and financial statement of the premises account. Dr. Edye seconded Dr. Bell's motion that the statements be received, and the motion was carried.

Election of Office Bearers.

Dr. Barron announced that the following had been elected members of the Council for the ensuing year: Dr. George Bell, Sir Charles Blackburn, Dr. K. S. M. Brown, Dr. A. J. Collins, Dr. A. M. Davidson, Dr. L. A. Dey, Dr. B. T. Edye, Dr. H. R. R. Grieve, Dr. P. L. Hipsley, Dr. H. H. Jamieson, Dr. A. M. McIntosh, Dr. K. C. T. Rawle, Dr. W. F. Simmons, Dr. E. H. M. Stephen, Dr. A. C. Thomas, Dr. E. A. Tivey, Dr. W. Vickers, Dr. G. C. Willcocks.

Messrs F. W. Duesbury, Hartigan and Company were appointed auditors for the ensuing year.

Incoming President's Address.

Professor W. K. Inglis delivered his president's address (see page 609). A vote of thanks was passed to Professor Inglis, on the motion of Dr. H. R. R. Grieve, seconded by Dr. E. H. M. Stephen.

NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

Balance Sheet as at December 31, 1939.

	£ s. d.	£ s. d.
Fixed Liabilities.		
Debentures—		
133 4% Series "A" at £10 each	1,330 0 0	
428 4·65% Series "B" at £50 each	21,400 0 0	
244 4·65% Series "C" at £10 each	2,440 0 0	
	25,170 0 0	
Less Amount Unpaid	62 0 0	
	25,108 0 0	
Australian Mutual Provident Society (secured by Mortgage over Property—B.M.A. House)	82,000 0 0	
		107,108 0 0
Current Liabilities.		
Sundry Creditors	271 19 8	
Interest Accrued on Mortgage	307 10 0	
Deposit at Call	700 0 0	
		1,279 9 8
Other Credit Balances.		
Subscriptions Paid in Advance		46 0 6
Accumulated Funds—		
Balance at December 31, 1938	68,450 9 4	
Add Surplus for year ended December 31, 1939—		
Branch Account £352 16 6		
Premises Account 3,525 4 10		
	3,878 1 4	
Provision for Painting of Building	800 0 0	
		73,128 10 8
		£181,562 0 10

	£ s. d.	£ s. d.
Fixed Assets.		
Land and Building—B.M.A. House—		
At Cost less Depreciation on Building	172,448 11 3	
Library at Valuation less Depreciation	1,190 14 8	
Office Furniture and Equipment at Valuation less Depreciation	571 16 1	
Debentures in Other Companies—		
Australasian Medical Publishing Company Limited (Face Value)	100 0 0	
		174,311 2 0
Current Assets.		
Sundry Debtors (after making provision for Doubtful Debts)—		
Sundry Tenants, Rent, etc.		2,431 8 9
Cash on Hand		4 14 4
Commercial Banking Company of Sydney Limited—		
Premises and Branch Current Accounts	1,183 19 3	
Debenture Interest Account	3 4 0	
Fixed Deposits	3,000 0 0	
		4,187 3 3
Other Debit Balances.		
Prepaid Insurance, Rates, etc.		627 12 6
		£181,562 0 10

Sydney, January 31, 1940.

We have examined the foregoing Balance Sheet with the Books of Account of the New South Wales Branch of the British Medical Association, and, having obtained all the information and explanations we have required, we are of the opinion that such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs according to the best of our information and the explanations given to us and as shown by the books of the Company. In our opinion the Register of Members and other records which the Company is required to keep by the New South Wales Companies Act, 1936, or by its Articles have been properly kept.

London Bank Chambers,
18-20 Martin Place, Sydney.

F. W. Duesbury, Hartigan & Co.,
Chartered Accountants (Aust.).

G. M. Barron, President.
George Bell, Hon. Treasurer.
Robt. J. Stiffe, Financial Secretary.

INDUCTION OF PRESIDENT.

Dr. George Barron inducted the President for the year 1940-1941 (Professor W. K. Inglis) and wished him a successful year of office. Professor Inglis thanked the members for his election.

UNVEILING OF PORTRAITS OF PAST PRESIDENTS.

Dr. G. M. Barron unveiled the portraits of past presidents of the Branch which had been placed on the wall at the back of the hall. The portraits, which were placed in chronological order, will form an interesting and valuable historical record of the Branch.

Medical Societies.

MELBOURNE PÆDIATRIC SOCIETY.

A MEETING of the Melbourne Pædiatric Society was held at the Children's Hospital, Carlton, Melbourne, on November 8, 1939. DR. D. O. BROWN, the President, in the chair. Part of the report of this meeting appeared in the issue of April 27, 1940.

Congenital Cranial Nerve Palsies.

DR. W. W. MCLAREN showed a boy, aged four years, suffering from congenital cranial nerve palsies. He said that in infancy the child had had a husky cry, an absence of tears and an inability to suck. Double talipes was also present. He had commenced to talk at the age of ten months and to walk at eighteen months. His behaviour had not been quite normal; he had displayed a lack of fear and was not clean in handling food. The face was expressionless and slight ptosis was observable. The mentality was somewhat retarded. No sensory changes had been detected and the tonicity of the muscles of the limbs was normal. Dr. McLaren demonstrated bilateral paralysis of the child's sixth, seventh and twelfth cranial nerves. He considered that the child's condition was an example of the infantile nuclear aplasias of Moebius; but he believed that the pathology was quite unknown. He had been told that the child was a good singer at the age of two years, but that that early promise had not been sustained.

DR. J. W. GRIEVE said that he was interested in the condition because of its rarity. He had suspected its presence in a baby under his care who had had to be fed by tube for six or seven months because of inability to swallow; but the baby was now a healthy child. He could also remember another infant with difficulty in swallowing who had subsequently contracted pneumonia and had died.

DR. D. O. BROWN said that he had been interested in some of the nuclear defects in infancy. Kernicterus following on *icterus neonatorum* was a condition of severe staining of nuclei followed by vacuolation and degeneration leading to the production of a variety of signs and symptoms.

Dr. McLaren added that in an article in Abt's "Pædiatrics" the condition was classified under the heading of "infantile movement defects in the region of the cranial nerves" and that congenital ptosis and congenital atrophy of the tongue received special notice. He had been informed that the mental age of the child was one year and seven months; but on clinical grounds he had reason to believe it was greater. He had had difficulty in deciding what was the best advice to give the mother about bringing the child up.

Hanot's Biliary Cirrhosis.

DR. J. W. GRIEVE showed a girl, aged eleven years, suffering from hepatomegaly and splenomegaly and certain other features of unusual interest. She belonged to a family several members of which were said to have had big livers, and on the mother's side dark complexions were the rule. The father had been killed accidentally; but the mother was living and healthy, and this child was the only child. There was no history of contact with tuberculosis. The child had had no serious illnesses until the present one. After tonsillectomy in July, 1939, she was listless and tired, and early in August became jaundiced; the motions were pale and the urine was dark. She was admitted to the Children's Hospital with an icteric tinge in October, but in general her health was good. The liver was enlarged to five centimetres below the right costal margin and the edge was firm and uniform; the spleen was palpable, the lower edge being about four centimetres below the left costal margin; there was no notable enlargement of the glands in the groins or axillæ. In addition there were a few petechiæ over the abdomen and the conjunctivæ which had disappeared after a few days, and a slight degree of clubbing of the fingers was noted. Pigmentation of the face, trunk and exposed parts of the arms and legs was a feature of special interest. Dr. Grieve said that the temperature range had been normal throughout except for one short bout of pyrexia. The spleen had become smaller. On three occasions the child had had morbilliform eruptions, one of which was associated with the bout of pyrexia and another with troublesome urticaria. Dr. Grieve had at first been inclined to attribute the eruptions to the use of "M & B 693", but had ruled out that cause, as the eruption had recurred after withdrawal of the drug. With reference to the blood picture, Dr. Grieve said that the patient had become progressively anæmic while in hospital. Shortly after her admission to hospital it was estimated that the hæmoglobin value was 87%, the erythrocytes numbered 4,200,000 and the leucocytes 10,500 per cubic millimetre; and a recent examination had shown that the hæmoglobin value was 75%, and the erythrocytes numbered 3,500,000 and the leucocytes 6,500 per cubic millimetre. A number of investigations had been carried out. Urobilin was present in the urine, but no bile salts or pigments were present; renal casts had been found. A differential leucocyte count had shown that 59% were lymphocytes and 36% were polymorphonuclear cells; no primitive cells had been seen. Occult blood was present in the fæces repeatedly. The *fundi oculorum* were normal in appearance; the erythrocytes were of normal fragility. The response to the Fouchet test was positive, and there was a delayed direct Van den Bergh reaction, which was not definitely biphasic. In skiagrams of the chest the cardiac outline was seen to be normal, but there was an increase in the hilar shadows. A blood culture had been attempted, but no organisms had been grown; the erythrocyte sedimentation index was 33 millimetres and the blood serum had failed to yield the Wassermann reaction.

In discussing the differential diagnosis, Dr. Grieve said that in Hanot's biliary cirrhosis jaundice and enlargement of the liver occurred early in the illness; pigmentation and clubbing of the fingers, pyrexia recurring in crises and leucocytosis were expected features. In Gaucher's disease splenomegaly was characteristic, with anæmia and hæmorrhages and bronzing of the skin; but jaundice was rare, and there was usually no rise in temperature or leucocytosis. In Banti's disease the liver became enlarged at a late stage and the onset of the jaundice was also late; leucopenia was characteristic and the course was afebrile. Dr. Grieve added that other conditions to be considered were catarrhal jaundice, which he thought could be excluded on account of the duration of symptoms, and subacute necrosis of the liver, the result of advanced catarrhal jaundice, in which clubbing could occur. He concluded by stating that after mature consideration he had reached the diagnosis of Hanot's biliary cirrhosis. Dr. Grieve said that he had asked Dr. Ross to investigate the patient's condition as he saw fit, with the object of throwing light on the functional state of the liver; he asked Dr. Ross to give an account of the investigations he had conducted.

DR. C. WALLACE ROSS produced the graphic representations of the "intravenous" and "oral" glucose tolerance

curves of Dr. Grieve's patient plotted against normal curves and against one obtained from a typical case of multilobular cirrhosis. He thanked Dr. Grieve for allowing him to carry out the investigation. He showed that the "intravenous" glucose tolerance curve, initially a high one, fell with increasing rapidity to a subnormal level, and interpreted it as indicative of an increasing rather than a fixed and diminished tolerance—a condition not found in the commoner types of cirrhosis of the liver associated with considerable parenchymal damage. Dr. Ross pointed out that the test was thus useful in permitting a distinction to be drawn between the two types of case. Further, the initially high "intravenous" curve made it clear that the flat "oral" curve could signify only a defect in absorption—a sequel possibly to congestion, for it was found in many other conditions in which congestion of the alimentary tract was known to be present.

Dr. Ross also commented on the exudative phenomena, which he regarded as possibly linked up with a calcium deficiency, a general tendency to which was seen in all kinds of biliary obstruction. He was also interested in the pigmentation, some degree of which was not uncommonly seen in all chronic and advanced states of hepatic cirrhosis; it was probably linked up with some of the best known functions of protein elaboration normally carried out by the liver.

DR. GUY SPRINGTHORPE said that he thought the case fitted quite well into the classification as an example of Hanot's cirrhosis, though he understood that the condition was really only a pseudohypertrophy of the bile canals, which, being more tortuous than usual, were cut across more frequently and thus became a prominent feature in the microscopic sections. He had been struck by the close resemblance of the case to one described in an article in *Archives of Disease in Childhood* of June, 1939. In the case described in that journal the onset was at eight years of age and the duration was five years; the patient had clubbing of the fingers, the same type of jaundice as that of the patient shown by Dr. Grieve; and the liver was enlarged at an early stage, but decreased in size progressively.

DR. J. COLEBATCH said that he was in agreement with the diagnosis, though it was regarded as one which was not usually diagnosable *ante mortem*. He suggested that sternal puncture be performed, so that a search could be made for the presence of early forms of blood cells. Hodgkin's disease was a remote possibility as a diagnosis, and some cases thought to be Hanot's cirrhosis had turned out to be examples of reticulo-endotheliosis or aleuchæmic leuchæmia. Radiographic examination of the long bones would be of assistance in establishing the presence or absence of evidences of Gaucher's splenomegaly.

DR. STANLEY WILLIAMS said that he could not go further in the diagnosis than to speak of the condition as hepato-lienal fibrosis, which was hard to separate into groups clinically.

DR. W. McL. SMITHERS said he was interested in the pigmentation of the patient's skin which was indicative of lack of or incomplete absorption of the antipellagric factor, and also in the analogy between the condition of the patient and cœliac disease, as judged by the demonstration of blood sugar curves by Dr. Ross.

DR. G. RALEIGH WEIGALL said that he had been engaged recently in a study of toxic cirrhosis following "Atophan" poisoning; of eighty patients who had died from toxic cirrhosis, 90% had had pigmentation on the exposed parts of the body. Dr. Weigall understood that pigmentation was common in all cases of cirrhosis, and there was no need to invoke pellagra or deficient absorption from the bowel to account for it in the present case.

DR. D. O. BROWN said that it seemed fair to regard the condition as hepato-lienal fibrosis; no one would consider splenectomy in the case.

Dr. Grieve, in reply, said that he was glad the members had found the case interesting. Unless he had missed it on other occasions, it was a clinical picture which he had not previously encountered. He had been particularly interested in Dr. Smithers's remarks on the pigmentation and the antipellagric factor. He thought that the condition was really an example of Hanot's biliary cirrhosis.

Congenital Biliary Cirrhosis.

DR. H. BOYD GRAHAM showed a male baby, aged eleven weeks, suffering from jaundice, which had appeared clinically between the fourteenth and seventeenth days after birth. He said that the baby was the third child in the family, in which there were two other boys, aged five and a half and two and a half years respectively. The elder children were healthy and had had no trouble from jaundice in infancy, though Dr. Graham had been informed that certain relations of the family after expert medical investigation were regarded as "bleeders". The baby had weighed eight and a half pounds at birth, but lost nine ounces in the first two weeks; he had since made satisfactory steady progress in weight, to reach nine pounds thirteen ounces at the age of eleven weeks. Considerable trouble had been caused by bleeding from the circumcision wound during the second week of life; all the usual methods were adopted, but a transfusion of blood from the mother was required to stop it finally, and the hæmoglobin value fell to 67%. The child was a patient in the Children's Hospital from August 30 to September 4, on account of the oozing from the circumcision wound, and was readmitted to hospital on September 7 for a week because of jaundice. During that week it was found that the blood calcium level was 10·9 milligrammes per 100 cubic centimetres; the Fouchet test elicited a positive reaction and a direct biphasic reaction to the Van den Bergh test was obtained. The stools, which averaged three daily, were always creamy white in colour. The baby was given three grains daily of ferrous sulphate from that time onwards to the time of the meeting. Dr. Graham said that he had seen the baby in the out-patient department once in every week or two. The stools contained no bile pigment or derivatives, and consisted almost entirely of unsplit fat. The urine was deeply coloured, but did not contain urobilin. The temperature was frequently slightly elevated in the latter part of the day. The pulse rate was between 120 and 130 per minute. The spleen had not been palpable at any stage, and it was only during the past two weeks that the liver had become enlarged; the lower border of the liver was firm and extended over to the tip of the seventh left costal cartilage and downwards three or four centimetres below the right costal margin. An unusual feature of interest had been observed on October 25; multiple nodular blood-containing dilated veins were present on each leg, and there were several very small areas of bruising about the wrists; those phenomena had since disappeared. Dr. Graham expressed his indebtedness to Dr. Howard Williams for undertaking to arrange last-minute investigations on the day of the meeting. It had been ascertained that the erythrocytes numbered 6,000,000 and the leucocytes 32,000 per cubic millimetre of blood; the hæmoglobin value was 94%; no abnormal forms of erythrocytes were seen in the blood film; the differential leucocyte count showed that 60% of the cells were lymphocytes and only 27% were polymorphonuclear cells; platelets were present in normal numbers. The stools were still very pale and the urine was highly coloured. The response to the Fouchet test was positive, and again the direct biphasic Van den Bergh reaction had been obtained. A skiagram had been prepared, from which it was discernible that the liver was enlarged and the lung shadows were normal in all respects.

Dr. Graham said that he regarded the condition as an example of congenital biliary cirrhosis, with or without obliteration of the larger biliary channels. He was inclined to the view that obliteration was present, because of the complete absence of bile pigments and derivatives from the fæces. The low-grade febrile course and the type of Van den Bergh reaction indicative of toxic and infective hepatic jaundice made it probable that a state of hepatitis and cholangitis was existent. The ætiology was obscure; but a factor might be a developmental

failure in canalization of the mesoblastic tissue which should have formed the main bile passages; another theoretical concept was intrauterine infection of the liver leading to stenosis or obliteration of the biliary channels. If the diagnosis was sustained it was predictable that the baby would soon fail to make satisfactory progress and manifest grave evidence of hepatic insufficiency, leading inevitably to death within a few months unless life could be prolonged by surgical means. Dr. Graham understood that, if it was practicable, an anastomosis of the gall-bladder, if present, or of the common duct, if patent, with the duodenum or with the stomach had been advocated and practised in such cases. As the prospect under medical management was not bright, Dr. Graham asked for opinions from the surgeons present concerning the feasibility of operative treatment. If it was to be undertaken, there was not much time for further consideration, because of the advisability of operating while the condition of the patient was reasonably good. He had not carried out a cholecystographic examination because he thought that whatever the outcome of that investigation was, surgical exploration would be necessary to establish the exact state of affairs, and the procedure of cholecystography might damage the liver further and prejudice the chances of successful operation. Dr. Graham regretted that Dr. Ross had left the meeting; he might have had some suggestions to offer concerning tests for hepatic adequacy.

DR. GUY SPRINGTHORPE regarded the case as one of congenital obliteration of the bile ducts, and thought it was worth while to have a cholecystogram made before the patient was submitted to operative treatment. No time should be lost, as the patient could be expected to go down hill very soon.

DR. STANLEY WILLIAMS spoke of the possibility of the presence of a hæmolytic form of anæmia. There must be increased destruction associated with obliteration of the bile duct or biliary cirrhosis. He suggested that the baby should have iron therapy and vitamin *K* in tablet form, or spinach juice, even if only as a preparation for operation.

DR. D. O. BROWN said that he had been extremely interested in the details given by Dr. Graham. Patients with bile duct atresia did not show symptoms for a few days after birth, and many of them survived for months; he had heard of one reaching the age of fifteen months; the next oldest child had died at seven and a half months. A point of interest was the relative dominance of obstruction and hæmolysis in the picture. Dr. Williams had clouded the issue somewhat, as it might be inferred that he did not approve of the proposal to operate on the baby. The degree of hæmolysis that was going on was determinable. Bonar, of Salt Lake City, had emphasized that hæmolysis was delayed in the presence of bile pigment, at all events *in vitro*. The suggestion was that bile salts tended to delay hæmolysis. Bonar determined the bilirubin index. Apparently, then, hæmolysis was not a justification for postponing operation on a jaundiced patient, and Dr. Brown urged that a cholecystographic examination should be carried out. If a gall-bladder of reasonable size or a dilated hepatic duct was visualized, an attempt should be made to anastomose it to the stomach; cholecystduodenostomy was too difficult to be performed successfully.

Dr. Graham, in reply, said that the condition was fortunately rare. Poynton and Wyllie had reported that in the period from 1910 to 1925, at Great Ormond Street Hospital, there had been found at autopsy only 48 examples of hepatic cirrhosis, of which 22 were examples of congenital biliary cirrhosis. 15 of them in association with obliteration of the larger bile ducts. In the present instance it was certain that the spleen was not enlarged, as it would be if the jaundice was due to congenital syphilis, and all the conditions of *icterus neonatorum* and *icterus gravis* could be excluded. It seemed probable that the survival of the baby would ultimately rest on the successful performance of a difficult operation.

Naval, Military and Air Force.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Number 69, of April 18, 1940.

PERMANENT NAVAL FORCES OF THE COMMONWEALTH (SEA-GOING FORCES).

Appointments.—Athol Herbert Robertson is appointed Surgeon Lieutenant (for short service), dated 27th March, 1940.

CITIZEN NAVAL FORCES OF THE COMMONWEALTH.

Royal Australian Naval Reserve.

Promotion.—Surgeon Lieutenant John Kempson Maddox is promoted to the rank of Surgeon Lieutenant-Commander, dated 1st April, 1940.

AUSTRALIAN IMPERIAL FORCE.

Australian Army Medical Corps.

The appointment of Major K. B. Hope is terminated, 13th March, 1940.

First Australian Corps.

Colonel S. R. Burston, C.B.E., D.S.O., V.D., is appointed Deputy Director of Medical Services.

Sixth Division.

Colonel H. C. Disher is appointed Assistant Director of Medical Services.

Seventh Division.

To be Colonel—Lieutenant-Colonel F. K. Norris, and to be Assistant Director of Medical Services.—(Ex. Min. No. 77—Approved 17th April, 1940.)

AUSTRALIAN MILITARY FORCES.

EASTERN COMMAND.

Second Military District.

Australian Army Medical Corps.

Captain (provisionally) W. L. Fowles is supernumerary to establishment pending absorption, 10th March, 1940. Captains (provisionally) W. G. Gailey, I. W. Macnaught, J. G. Collins, K. M. McNamee, A. E. Gatenby, H. R. T. Hodgkinson, J. F. Sullivan and W. H. Campbell are supernumerary to establishment, pending absorption, 20th March, 1940. Captain (provisionally) W. A. Conolly is supernumerary to establishment pending absorption, 21st March, 1940.

SOUTHERN COMMAND.

Command Headquarters: Staff.

Colonel C. G. Shaw, D.S.O., V.D., Australian Army Medical Corps, is re-appointed Deputy-Director of Medical Services, Southern Command, for a period of two years from 1st February, 1940.

ROYAL AUSTRALIAN AIR FORCE.

Citizen Air Force.

Medical Branch.

The following are granted commissions on probation with the rank of Flight Lieutenant, with effect from 18th March, 1940: John Donald Russell, M.B., Ch.M., Alfred Conrad Blumer, M.B., Ch.M., James Leontine Roy Carter, M.B., B.S., and Carlyle Penrose Hudson, M.B., B.S., F.R.C.S.

Reserve.

John Patrick Horan, M.D., B.S., M.R.C.P., F.R.A.C.P., is granted a commission on probation in Class D.2, with the rank of Flight Lieutenant, with effect from 25th March, 1940.—(Ex. Min. No. 20—Approved 4th April, 1940.)

Corrigendum.

Kenneth Edward Rex, M.B., B.S., is granted a commission on probation with the rank of Flight Lieutenant, with effect from 1st March, 1940. (In lieu of notification appearing on page 609 of *Gazette* of 14th March, 1940.)

Correspondence.

SPRING CATARRH.

SIR: The case of spring catarrh (reported by me in THE MEDICAL JOURNAL OF AUSTRALIA of February 17 and March 23) has so much improved that any oculist seeing the case for the first time would be doubtful of the diagnosis.

It is true that the cold weather has arrived, but the remarkable improvement has taken place during an unusually fierce summer. The final verdict on the "Prontosil" treatment will be reached next spring.

Yours, etc.,

JAMES W. BARRETT.

103-105, Collins Street,
Melbourne, C.1,
April 16, 1940.

THE PAINS OF LABOUR.

SIR: It is good to see, in the current comment in your journal of April 13 last, that the above subject is at last receiving some attention from obstetricians.

There is, however, a yet more "fundamental question" than the mechanism of labour pain: that of the cause of labour pain. In his "Symptoms and their Interpretation" Mackenzie described labour pain as a reflex referred from the uterus, but he gave no reason for the occurrence of such a reflex. Causes, not merely nervous pathways to and from the uterus (important as these are) must be sought. In one of his papers Mackenzie also claimed that pain was nearly always due to muscular contraction, though the contraction might be very slight. He certainly seems to be right where pain dependent on the functioning of muscular organs is concerned. Labour pain, mild or severe, is indubitably associated with uterine contraction. Labour does not seem to be studied by physiologists; but it seems apparent that errors in stimulus production, in contractility, in tonicity, in conductivity, in retractility must occur. I have even thought that fibrillation has occurred in at least one and perhaps in two patients who came under my observation. The electro-uterographist, when he appears, will have a contribution to make here, just as the physiologist should determine the effect of various nutrient fluids (Ringer's fluid and variations upon it) upon uterine action, and the animal experimentalist the relation between good and faulty diets and specific characters of labour.

"The lag in the pain sensation" from the uterine contraction is easily observed by anyone who makes a practice of giving chloroform *à la reine*—very frequently the contraction is well started before the pain is felt. Such pain may be felt only at the height of the contraction, or it may continue till relaxation is complete. Sometimes pain begins before the contraction is palpable by the attendant. Pain may even be continuous, with exacerbations during the objectively palpable hardening of the uterus.

"The lack of correspondence between the severity of pain felt and the strength of a contraction" is really due to an inverse relationship between the two, that is, the more efficient the contraction, the less severe the pain; as the degree of efficiency varies so much, so does the pain. Barnes long ago pointed out that pain disturbs the equable connexion.

My own belief is that labour pain is an early indication of uterine inertia; that as symptoms usually precede signs in medicine, so in obstetrics pain may precede obvious inefficiency.

Is it permissible for me to mention some of my own contributions to the literature of this question? Your own journal published my "New Definition of Normal Labour" on August 22, 1925, and its "Application" on July 3, 1926, while "Uterine Inertia" (1927) and "Pain and Other Reflexes in Labour" (1929) were published in the transactions of the Dunedin and Sydney congresses, and "Painless Labours" in *The British Medical Journal* of October 27, 1928. My "Theory of Obstetrics" (Baillière, Tindall and Cox, 1930) is a functional study of labour and child-bearing in general. They are not well known to those interested in the problem, but they might prove useful; at least I hope so!

Yours, etc.,

MARY C. DE GARIS.

Geelong,
April 16, 1940.

VICTORIAN BRANCH RULES.

SIR: At a recent meeting of the Victorian Branch of the British Medical Association a resolution was carried increasing the membership fee to £6 6s. *per annum*.

At this meeting I suggested that the proposal, involving as it did a very large *per centum* financial increase in the annual subscription, should be submitted to a referendum of all members of the Branch. The President ruled my suggestion out of order, for, according to Rule 29 of the Branch, he had no power to do otherwise than proceed with the vote.

Rule 29 reads as follows:

> The Council may at any time refer any questions of change of rule or any question of policy to the ordinary members of the Branch resident in Victoria for an expression of opinion. The voting in any such referendum may be by ballot or otherwise as the Council may determine, and at least one week shall be allowed for the return of voting papers. The voting in such referendum shall be informative, and not executive.

The Branch is thus in the absurd position that any motion, even of great importance, may be carried at a meeting at which comparatively few are present, not all of whom need even vote.

On this occasion only 29 voted in favour of the motion, 19 against.

Thus the whole branch of several hundred members was controlled and its finances materially altered by 29 members.

I suggest that Rule 29 be altered so as to provide for a referendum on any matter of finance and that such referendum be made obligatory and executive.

Yours, etc.,

PAUL G. DANE.

110, Collins Street,
Melbourne, C.1,
April 16, 1940.

A THEFT OF ANÆSTHETIC APPARATUS.

SIR: Recently my motor car was broken open and a large quantity of anæsthesia equipment and accessories was stolen. The chief loss was the machine head (comprising flow meters, ether tank, carbon dioxide absorption attachment, corrugated rubber tubing, masks *et cetera*) of a Magill gas apparatus.

In addition there were a Magill laryngoscope, endotracheal tubes and angles, tube forceps, spirit-proof syringe case and syringes, baumanometer and numerous other useful items.

As attempts may be made to dispose of these goods to practitioners, caution should be exercised in any dealings

with persons who may represent themselves to be the agents of reputable firms or deceased estates having such second-hand articles for sale. A prompt notification to the police of any occurrence of this nature would be very much appreciated.

Yours, etc.,

S. V. MARSHALL.

135-137, Macquarie Street,
Sydney,
April 23, 1940.

THE MEDICAL PROFESSION AND THE WAR.

SIR: Dr. Shiels, in your issue dated April 20, quotes the following extract from my presidential address to the Royal Australasian College of Physicians, as reported in *The Argus* newspaper: "Therefore the College was trying to induce the military authorities to permit other men to take the places of those who had done fifteen months' service." I must explain that this statement embodies my own views and efforts, and that the principle involved has not been considered by the Council of the College. I have no intention of engaging in a controversy with Dr. Shiels on this question, but I feel sure that he will admit that even those, like myself, who had not the privilege of serving overseas in the last war may be forgiven for expressing opinions, however fallacious, if in so doing they are actuated solely by a sincere desire to be helpful. My proposal is designed simply for the purpose of augmenting the numbers of men over military age who may volunteer for service in the present war by relieving them of part of the burden which would be willingly but, I think, unfairly borne by their younger colleagues.

Yours, etc.,

SIDNEY V. SEWELL.

12, Collins Street,
Melbourne,
April 24, 1940.

Post-Graduate Work.

WEEK-END COURSE IN SURGERY AT SYDNEY.

THE New South Wales Post-Graduate Committee in Medicine will hold a course of instruction in surgery at the Prince Henry Hospital, Little Bay, during the week-end May 11 and 12, 1940. Details of the programme were published in the journal on April 6. Copies may be obtained from the Secretary of the Committee, the Prince Henry Hospital. The fee for attendance at the course is one guinea.

Proceedings of the Australian Medical Boards.

QUEENSLAND.

THE undermentioned have been registered, pursuant to the provisions of *The Medical Act of* 1939, of Queensland, as duly qualified medical practitioners:

Courtney, Charles Arthur, L.L.Mid., R.C.P. and S. (Edinburgh), L.F.P. and S. (Glasgow), 1893, Palm Island.

Youngman, Norman Vincent, M.B., B.S., 1935 (Univ. Melbourne), Dean Street, Toowong, Brisbane.

Notice.

ROYAL MELBOURNE HOSPITAL OLD STUDENTS' ASSOCIATION.

THE first annual meeting of the Royal Melbourne Hospital Old Students' Association will be held at the Royal Melbourne Hospital from Thursday, May 16, to Saturday, May 18. Those who are interested and who have not received a circular are invited to write to one of the Honorary Secretaries, G. R. A. Syme and Paul Jones, at the Royal Melbourne Hospital.

Books Received.

THE CARE OF YOUNG BABIES, by J. Gibbens, M.B., M.R.C.P., with a foreword by R. Hutchinson, Bt., M.D., M.R.C.P. London: J. and A. Churchill Limited. Crown 8vo, pp. 178, with illustrations. Price: 3s. 6d. net.

THE PINEAL ORGAN: THE COMPARATIVE ANATOMY OF MEDIAN AND LATERAL EYES, WITH SPECIAL REFERENCE TO THE ORIGIN OF THE PINEAL BODY; AND A DESCRIPTION OF THE HUMAN PINEAL ORGAN CONSIDERED FROM THE CLINICAL AND SURGICAL STANDPOINTS, by R. J. Gladstone, M.D., F.R.C.S., F.R.S.E., D.P.H., and C. P. G. Wakeley, D.Sc., F.R.C.S., F.R.S.E., F.Z.S., F.A.C.S., F.R.A.C.S.; 1940. London: Baillière, Tindall and Cox. Super royal 8vo, pp. 542, with 324 illustrations. Price: 42s. net.

MINOR SURGERY AND THE TREATMENT OF FRACTURES (HEATH, POLLARD, DAVIES) FOR THE USE OF HOUSE SURGEONS, DRESSERS AND JUNIOR PRACTITIONERS; Twenty-Second Edition, by G. Williams, M.S., F.R.C.S., with a chapter on the administration of anæsthetics by H. N. Webber; 1940. London: J. and A. Churchill Limited. Crown 8vo, pp. 480, with 283 illustrations. Price: 12s. 6d. net.

A POCKET MEDICAL DICTIONARY, compiled by L. Oakes, S.R.N., D.N., assisted by T. B. Davie, B.A., M.D., M.R.C.P.; Fourth Edition; 1940. Edinburgh: E. and S. Livingstone. Crown 16mo, pp. 429, with illustrations. Price: 3s. 6d. net.

MEDICAL RESEARCH COUNCIL OF THE PRIVY COUNCIL. SPECIAL REPORT SERIES, NUMBER 236: MEDICAL USES OF RADIUM. SUMMARY OF REPORTS FROM RESEARCH CENTRES FOR 1938; 1939. London: His Majesty's Stationery Office. Medium 8vo, pp. 64, with illustrations. Price: 1s. net.

PRINCIPLES AND PRACTICE OF AVIATION MEDICINE, by H. G. Armstrong, B.S., M.D.; 1939. London: Baillière, Tindall and Cox. Medium 8vo, pp. 508, with illustrations. Price: 36s. net.

ELEMENTARY HYGIENE FOR NURSES. A HANDBOOK FOR NURSES AND OTHERS, by H. C. R. Darling, M.D., M.S., F.R.C.S., F.R.F.P.S.; Seventh Edition; 1940. London: J. and A. Churchill Limited. Crown 8vo, pp. 371, with 69 illustrations.

FIELD AMBULANCE ORGANIZATION AND ADMINISTRATION, by Lieutenant-Colonel J. Hardie Neil, N.Z.M.C.; amended and revised edition; 1940. London: H. K. Lewis and Company Limited; Australia: Angus and Robertson and W. Ramsay. Crown 8vo, pp. 128, with diagrams. Price: 5s. net.

THE ANATOMY OF THE HUMAN SKELETON, by J. E. Frazer, D.Sc., F.R.C.S.; Fourth Edition; 1940. London: J. and A. Churchill Limited. Demy 4to, pp. 308, with 219 illustrations, of which many are in colour. Price: 30s. net.

NEUROLOGY, by S. A. Kinnier Wilson, M.A., M.D., D.Sc., F.R.C.P., edited by A. N. Bruce, F.R.C.P., D.Sc., M.D., F.R.S.; in two volumes; 1940. London: Edward Arnold and Company. Super royal 8vo, pp. 1838, with illustrations. Price: 84s. net.

STANDARD METHODS OF THE DIVISION OF LABORATORIES AND RESEARCH OF THE NEW YORK STATE DEPARTMENT OF HEALTH; Second Edition; 1940. London: Baillière, Tindall and Cox. Medium 8vo, pp. 681, with illustrations. Price: 41s. net.

MEDICAL RESEARCH COUNCIL OF THE PRIVY COUNCIL. SPECIAL REPORT SERIES, No. 237: REPORT OF THE RESPIRATORS (POLIOMYELITIS) COMMITTEE: BREATHING MACHINES AND THEIR USE IN TREATMENT; 1939. London: His Majesty's Stationery Office. Medium 8vo, pp. 104. Price: 2s. net.

NURSING IN ACUTE INFECTIOUS DISEASES, by F. V. G. Scholes, C.M.G., M.D., B.S., D.P.H., F.R.A.C.P.; 1940. Sydney: Australasian Medical Publishing Company Limited. Demy 8vo, pp. 313. Price: 16s., *plus* postage.

Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Gill, Peter Waring, M.B., B.S., 1939 (Univ. Sydney), Sydney Hospital, Sydney.

Deane-Butcher, William, M.B., B.S., 1938 (Univ. Sydney), No. 6, Coora Court, Meeks Street, Kingsford.

The undermentioned has applied for election as a member of the Victorian Branch of the British Medical Association:

Beraha, Maurice, M.D., 1936 (Naples), Wangaratta Base Hospital, Wangaratta.

Diary for the Month.

MAY 7.—New South Wales Branch, B.M.A.: Organization and Science Committee.
MAY 10.—Queensland Branch, B.M.A.: Council.
MAY 14.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
MAY 14.—Tasmanian Branch, B.M.A.: Branch.
MAY 15.—Western Australian Branch, B.M.A.: Branch.
MAY 21.—New South Wales Branch, B.M.A.: Ethics Committee.
MAY 22.—Victorian Branch, B.M.A.: Council.
MAY 23.—New South Wales Branch, B.M.A.: Clinical meeting.
MAY 24.—Queensland Branch, B.M.A.: Council meeting.
MAY 28.—New South Wales Branch, B.M.A.: Medical Politics Committee.
MAY 30.—South Australian Branch, B.M.A.: Branch—Listerian Oration.
MAY 30.—New South Wales Branch, B.M.A.: Branch.
MAY 31.—Tasmanian Branch, B.M.A.: Council.
JUNE 4.—New South Wales Branch, B.M.A.: Organization and Science Committee.

Medical Appointments.

Dr. D. S. Atkins has been appointed Government Medical Officer at Cloncurry, Queensland.

* * *

Dr. J. Morrow has been appointed Government Medical Officer at Crow's Nest, Queensland.

* * *

Dr. P. J. Monahan has been appointed Deputy Quarantine Officer at Townsville, Queensland, in accordance with the provisions of the *Quarantine Act* of 1908-1924.

* * *

The following honorary appointments have been made at the Royal Adelaide Hospital, Adelaide, South Australia: Clinical Assistant to the Physiology Department, Dr. D. W. Shepherd; Assistant Pathologist, Dr. J. M. Dwyer; Temporary Assistant Physician, Dr. M. E. Chinner; Temporary Clinical Assistant to the Surgical Section, Dr. W. W. Jolly; Temporary Radiologist, Dr. J. S. Verco; Temporary Assistant Radiologists, Dr. C. Gurner; Dr. B. S. Hanson; Clinical Assistant to the Radiological Section, Dr. B. C. Smeaton; Temporary Surgeon, Dr. G. H. Burnell; Temporary Assistant Surgeon, Dr. A. C. McEachern; Clinical Assistant to the Surgical Section, Dr. N. S. Gunning; Temporary Pathologist, Dr. R. H. Elix.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser", pages xviii-xx.

SYDNEY HOSPITAL, SYDNEY, NEW SOUTH WALES: Honorary Assistant Deep X-Ray Therapist, Pathologist.

CAIRNS HOSPITAL BOARD, CAIRNS, QUEENSLAND: Assistant Medical Officer.

DUMBLEYUNG MEMORIAL HOSPITAL, DUMBLEYUNG, WESTERN AUSTRALIA: Medical Officer.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCHES.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company Limited. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	Associated Medical Services Limited. All Institutes or Medical Dispensaries. Australian Prudential Association, Proprietary, Limited. Federated Mutual Medical Benefit Society. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17.	Brisbane Associate Friendly Societies' Medical Institute. Proserpine District Hospital. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.
SOUTH AUSTRALIAN: Secretary, 178, North Terrace, Adelaide.	All Lodge appointments in South Australia. All Contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, 205, Saint George's Terrace, Perth.	Wiluna Hospital. All Contract Practice Appointments in Western Australia.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2.)

Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this journal. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such a notification is received within one month.

SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and booksellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £1 for Australia and £2 5s. abroad *per annum* payable in advance.